# The Iron A

# A Review of the Hardware, Iron and Metal Trades.

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found in combination in many of the ven-tures which have been made in our trade

The Collmann Valve Gear.

Mr. A. Collmann of Vienna has recently invented a system of valve gear which has attracted much attention abroad, and has been exhibited at Paris in the Austrian section, where it is attached to the engine pronon, where it is attached to the engine providing power for that department. At first sight it greatly resembles the well-known Sulzer and Corliss gears, from which it differs by the fact that the valve is closed with a velocity regulated by that of the buffer receding from its socket by a compara-tively gradual motion. As can be seen by an examination of the figures, the steam admission valves are caused to operate by means of the combination of two motions,

means of the combination of two motions, one of which is constant while the other is is variable. The opening and closing of these valves, therefore, vary in accordance with the variation of the changeable motion. The constant motion is produced by the following mechanism: A shaft parallel to the axis of the cylinder carries two creaks or two eccentrics as the axis of the cylinder carries two cranks, or two eccentrics, as the case may be, for operating the gear at each end of the cylinder. Connecting rods worked by these eccentrics transmit motion to horizontal levers working on fixed centers. These in turn provide a constant motion at their extremity, which is transferred by means of a knee lever to a rod attached to a sliding block working the steam valve. The variable motion is transmitted from the sliding block shown plainly in Fig. 2. by means of a rod connected sliding block shown plainly in Fig. 2. by means of a rod connected with the joint of the knee lever referred to above. This sliding block is influenced by the governor by means of a shaft shown in Fig. 1. and a lever and rod which may be seen in Fig. 2. The position of the sliding block varies the amount of the second motion, and therefore the second motion, and therefore determines the degree of cut-off. The resulting motion given to the upper joint of the knee lever by the combination of the two motions described above, gives the slide con-nected with this joint a determined movement which raises and lowers

This would have the effect of leaving the valve free to close again, the particular point at which it does so depending upon the position of the sliding block on the eccentric rod. The higher this is the greater its motion will be, the further the joint will be pushed backward and the earlier the cut-off will take place. As the position of the sliding block is regulated from the governor, the cut-off is automatic. The exhaust valves are worked in a simple manner from the eccentric shaft, as Fig. 2 will show. The details of construction of the Collmann gear vary according to the engines to which it is applied.

The double-beat valves used by Collmann are of a peculiar form, intended by him to obviate the troublesome leakage which often occurs in such valves on account of unequal expansion of the valve and its seat. He

expansion of the valve and its seat. He founds his design on the fact that cones do not change their vertex angle in expanding, so that a solid and hollow cone once made to fit each other would fit equally well afterward whatever their temperatures. He therefore makes the two beats of his valves portions of two cones having a common ver-tex somewhere within the seating. Howtex somewhere within the seating. How ever much this point may change its position as the seat expands, it must remain the con mon vertex of the two beats of the

mon vertex of the two beats of the seat, and, therefore, of the equi-angled beats of the valve, and both faces will consequently fit always if fitted once. The working of these valves is said to be very satisfactory. It is claimed for the Collmann gear that the valves are quickly raised and lowered, and are closed with the greatest speed which durability will permit. So little resistance is opposed to the action of the governor that during every stroke of the engine full nresevery stroke of the engine full pressure of steam is supplied to the cylinders in exact proportion to the work done. The engine will, even when working against engine will, even when working against greatly varying resistances, give a regular and steady motion. The security of action combined with the quality of being reversible, and of giving all degrees of cut-off for both directions of rotation, make this gear especially suitable for marine and winding security. Mr. Collmann claims that his gea well with engines running at sp as high as 100 revolutions per minute. has been awarded a gold medal at Paris.

A test was lately made at Portsmouth, England, by order of the Admiralty, of an armor plate 12 feet long, 3 feet wide, 11 inches thick, and weighing about 5 tons,

made by Cammell & Co., of Sheffield. The plate was fixed to a bulkhead transversely that such a course inflicts upon English constructed in oak 3 feet 6 inches in thickmade by Cammell & Co., of Sheffield. The plate was fixed to a bulkhead transversely constructed in oak 3 feet 6 inches in thickness, and the gun used was a 12-ton 9-inch muzzle-loading rifle. Four shots were fired, the projectiles penetrating from 6 to 7½ inches, but none causing any fissures of importance, and the plate is regarded as having satisfactorily strong a severe test.

having satisfactorily stood a severe test. An English Appeal for the Removal of Belgian Duties on Pig Iron.

mill owners:
"We observe that it is stated that an application has been made by the British Iron Trade Association to the Minister of Finance at Brussels, asking for the repeal of the duty of 2½d, per cwt. now levied on pig iron imported into that country from Great Britain. The reasons assigned are that a remission of the duty would be of greater advantage to the Belgians than its retention, and it would be certain, they say, to increase trade between England and Belgium, by In a petition addressed to the Belgian enabling Belgian ironmasters and others to purchase their crude iron more advantage-dassociation for a reduction of the import duties on pig iron, the following is urged:

"That a duty of 2½d, per cwt. is now number of hands in the Belgian mills occu-

onough then to sue for increasing facilities in behalf of the Belgian mills, but in the meantime let us afford every protection in our power to our own countrymen, and if Belgium can convert our pigs into manufactured cheaper than we can, it becomes a question for grave consideration whether, instead of seeking for a reduction of duties in Belgium, we ought not to put on an ex-port duty from England at such an amount as will bring the prices of Belgian manufactured on a par with English manufactured.'

The Carriage Building Industry of the United States.

We are indebted to the conductors of the

tures which have been made in our trade during the recent period of depression. No man should hesitate to sell the products of his factory at cost, or even below cost, if the condition of the market is such that it cannet sell for more, or if he is in need of ready money, or if a falling market shows that he will be able to reinvest his money to better advantage. But if the proceeds of such unfortunate sales are immediately reinvested in similar articles, with no evidence that better results will be achieved, he is not only committing a wrong upon himself, but only committing a wrong upon himself, but he is aiding to bring about a similar state of affairs throughout the trade, which must result in disaster to many who would under other circumstances be able to tide over the difficulties that surround them. If a manufacturer, ambitious of selling a great number of carriages, disregards the question of profit and places them upon the market at prices less than they cost to produce, and repeats this per-formance in order to ruin persons who are pursuing legitimate plans of business, he is then doing a serious injury to the trade which it may take years to re-

> Your committee feel the propriety of calling your attention to this subof calling your attention to this subject as one of the most important to our trade, and they do so, not for the purpose of inviting any action on the part of the association, but in the hope that it may attract the individual attention of carriage builders, both inside and outside of our organization. They consider that the most feasible remedy for the evil consists in a more definite knowledge as to the costs of production, and they urge the importance of every they urge the importance of every builder taking a detailed and careful account of stock at least once each year, and of estimating with increased accuracy the cost of every piece of work turned out. They doubt not that the unfortunate competition referred to be increased. petition referred to has in many cases been due to the failure on the part of the manufacturer to correctly inform himself as to the cost price,

and if the association can in any way assist to impart information on this subject by the distribution of costschedules, or by any other means that its members may suggest, this is one of its legitimate functions, and it is an object which your committee will take pleasure in furthering in whatever way they can.

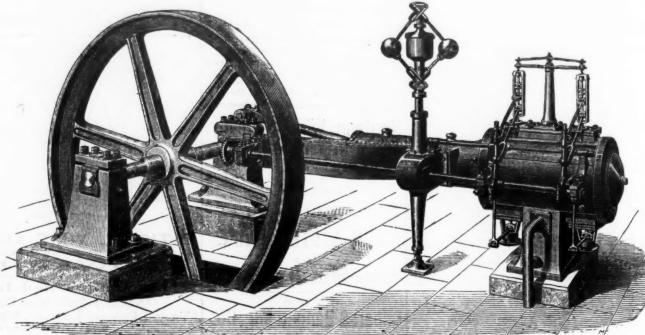


Fig. 1.—THE COLLMANN GEAR APPLIED TO A HORIZONTAL ENGINE.

nected with this joint a determined movement which raises and lowers the steam valve for all degrees of cut-off. Suppose the sliding block on the eccentric rod to be fixed and the eccentric to be in position to commence opening the valve. The eccentric is then nearly horizontal and turned toward the cylinder, so that the upper part of the rod is at its maximum distance from the cylinder. The knee lever is as shown in Fig. 2, almost straight, the joint being pulled forward by its connection with the eccentric rod. This opens the valve. As the eccentric descends the valve receives a motion determined jointly by the motions of the eccentric and its rod, the former tending to lift it. The upper end of the rod, however, continually approaches the cylinder, pushing back the knee joint. This would have the effect of leaving the valve free to close again, the particular point at which it does so depending upon the

in the cost of collection. That, consequer while it is the interest of the consumer as well as of the producer to have the duty abolished, there would appear to be no fiscal objection.

"That not only are the English producers and Belgian consumers of pigiron alike anxious for the abolition of this duty, but the most important maritime associations throughout the Kingdom of Belgium as well, and especially that of Antwerp.

employment to a large number of hands in the Belgian mills and forges occupied n converting the crude iron into manufactured products.

"That as Belgium in 1877 exported anufactured iron to the extent of 201,688 tons, as compared with only 13,974 tons imported, the cheapening of the cost of the English pig iron, of which Belgium imported 193,380 tons last year, would be likely to stimulate the production in and exportation from um of manufactured iron, which now forms and must continue main the staple of the iron trade of that

pied in converting the crude iron into manufactured. Such a request from an iron trade association in England sounds strange. In the first place, it is doubtful whether the Belgian houses would reap any particular advantage, for if the duty were repealed it might cause an increased demand for pigs; and, secondly, the price would immediately advance; therefore, what they saved in duty might be more than paid away in the

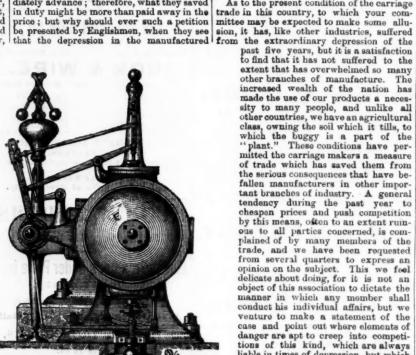


Fig. 2.-THE COLLMANN GEAR.

"That already Great Britain imports, free trade of this country in a great measure word to say. Competition by quality is alof any duty whatsoever, upward of 50,000 tons per annum of the special products of the Belgian mills and forges, and inasmuch as the remission of the import duties, already trade of this country in a great measure that the special products of the Belgian mills are the temperature of the special products of the specia referred to, would enable these special products to be produced at a yet cheaper rate, it is fair to assume that they would be still more largely imported by Great Britain.

"The British Iron Trade Association therefore believe that alike in the interests of Belgium and of England the present import duty levied on English pig iron should be abolished, and to this their humble prayer they crave accordingly your favorable consideration."

This appeal to Belgium by the

other branches of manufacture. The increased wealth of the nation has made the use of our products a necessity to many people, and unlike all other countries, we have an agricultural class, owning the soil which it tills, to which the buggy is a part of the "plant." These conditions have permitted the carriage makers a measure of trade which has saved them from the serious consequences that have bethe serious consequences that have befallen manufacturers in other impor-tant branches of industry. A general tendency during the past year to cheapen prices and push competition the inside of the forward crank. by this means, often to an extent ruinous to all parties concerned, is com-plained of by many members of the trade, and we have been requested from several quarters to express an opinion on the subject. This we feel delicate about doing, for it is not an object of this association to dictate the manner in which any member shall conduct his individual affairs, but we venture to make a statement of the case and point out where elements of danger are apt to creep into competi-tions of this kind, which are always liable in times of depression, but which we hope will be rendered less common during the coming year by increased prosperity of the country generally. Competition in trade is a governing

elevate a trade, but competition by price is just as legitimate within certain limits.

There can be no question that, if a carriage maker, by reason of superior advan-tages in the use of machinery, or by extra-ordinary skill in combining the elements of business—whether it be in the division of labor, or by superior organization, or by special knowledge of any kind, backed by large capital—possesses advantages over others in the same trade, he should be permitted to use these elements to his benefit, and in the end it is likely to result in good to the trade generally, however much This appeal to Belgium by the proof the greatest reprehension. Instead of tryducers of English pig iron has brought ing to obtain increased competition, we competition. But it may fairly be quesout a sharp rebuke of the London Mining ought to do our utmost to defeat it, and when

### Replacing a Broken Crank Pla at Sea.

The official report of John Lyuch, the chief engineer of the City of Tokio, gives the following account of the labor required the following account of the labor required to repair a broken crank pin of the vessel at sea: Steamship City of Tokio, at sea, July 6, at 7.40 p. m. discovered the after crank pin broken. Reported the fact to Commodore Maury, who ordered the propeller shaft to be disconnected, in order to allow it to revolve. After consulting with the commander, determined to heat the forward crank to remove the broken crank pin and replace it with a new one, but the crank pin being shrunk on could not succeed. pin and replace it with a new one, but the crank pin being shrunk on could not succeed. Then determined to drill and burst the eyes of the forward crank to get the pin out. In this labor we drilled six holes, 1% inches in diameter, 14 inches deep, through the eyes of each crank, and took the pin out. Then started to drill the broken pin, which was 17% inches in diameter, and 1% of the pin out. out. Then started to drill the broken pin, which was 17½ inches in diameter and 14 inches through the eyes of the cranks. Drilled 13 inches across the center of the pin drilled the same number of holes to intersect them, so as to remove one-half of the pin out of the eye. The after end being where the pin was broken, I did not have to drill intersecting holes. The whole time occupied in drilling the eyes of the crank and broken pin was 132 hours, and the whole amount of drilling was 720 inches of 1¼ inches in diameter. All the drills, cutting drifts, and all the tools used in the work, were forged and made on the ship work, were forged and made on the ship after breaking down. To heat the crank we had to use what wood we could procure about the ship, and, to confine the heat and blaze, we built a boiler-iron furnace, with sliding doors in the top and swinging doors in the side, to feed it, the inside being lined with fire-brick. The furnace was construct ed in the best shape to confine the heat around the crank and make it so that the men could feed it and watch the heating. After getting a good expanding heat on the cranks, shrunk in the pin that we took out of the forward cranks, connected three cylinders, and got under way, all working well

Mr. Albert Ungerer, of Pforzheim, Germany, has a new method for making paper stock from wood by chemical means. His method consists of putting the ground wood into a vessel in which it is exposed to a gradually increasing steam pressure and correspondingly increasing temperature, and the action of a solution of heated caustic sodn, which, though weak only, completely pulps the wood and bleaches it. For pine he uses a 5 to 6 per cent. solution and a pressure of six atmospheres as a maximum.

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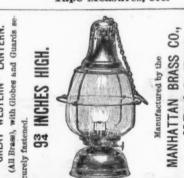
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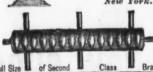
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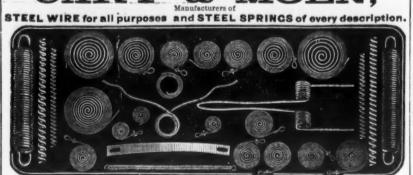
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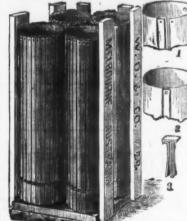


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Metal Stamping & Enameling Company, OFFICE & FACTORY, 708, 710, 712 N. Second St., St. Louis. Mo. FERNALD & SISE, 100 Chambers St., New York Agents. New Patents.

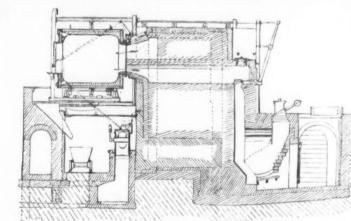
We take the following abstract of new patents, recently issued, from the official rolls, arranged as described, and geared to cord

MANUFACTURE OF IRON AND STEEL To Chas. W. Siemens, Westminster, England.—July 16.—The improvement in the art of producing wrought iron direct from the ore hereinbefore described, which consists ore hereinbefore described, which consists in charging the crushed ore into the rotator, together with such proportions of other ores or fluxing material as will give a fluid slag, tapping off the said slag before a welding heat is attained, and reducing and balling the metallic iron in the presence of a second

and so that two reductions of the metal are effected by three rollers at one operation.

2. In a rolling machine, the reducing





and welding cinder formed within the rotator after the earthy matters have been removed, whereby the balling up of the metallic iron is aided.

VALVE FOR REGENERATIVE HOT-BLAST STOVES. To John M. Hartman, Philadelphia, Pa.-July 23.—By having a circulation of water in it the valve is kept cool.

1. In hot-blast valves for regenerative

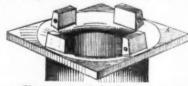
I. In hot-blast valves for regenerative fire-brick stoves, the valve-body A, cast in one piece with the flanges at a, combined with the water coil a, embraced by said flanges, and adapted to cool the seat portions of the valve body.

2. In hot-blast valves for regenerative stoves, the combination of a body, A, a sliding disk valve having inlet and outlet cooling pipes, and a removable cap for the reception of the valve.

3. In hot-blast valves for regenerative For sale in New York by E. KETCHAM & CO., 100 Beekman St.

SHIELD FOR THE TOPS OF CRUCIBLES OR MELTING-POTS.

To John Felix, San Francisco, July 16.—1. The protector formed of fire-proof material, having a central opening, and adapted to rest upon the top edge of a crucible or melting-pot and project either outwardly or inwardly therefrom, or both.



2. The protector A, having one or more

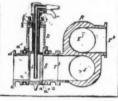
ing pipes, and a removable cap for the reception of the valve.

3. In hot-blast valves for regenerative stoves, the combination of the hollow sliding stem C, one or more adjustable flat plates, k' k', having beveled engaging surfaces, as shown, for compressing a metallic packingring, k, against the stem by means of spring bolts, k'.

4. In hot-blast valves for regenerative stoves, the combination of the casing T, an interest of the combination of the casing T, and in the United States Patent Office:

6366.—Razors.—George F. Creutzburg, Philadelphia, Pa.—July 23.

"The representation of an eagle."



attachment, R, having one or more openings,  $r^b r^i$ , into the stove, each of which has two or more openings leading therefrom.

5. The valve-body A, sliding disk-valve B, and removable cover D, adapted when said valve is raised to receive the same, combined with a hoisting and counterbalancing gear, whereby the said valve and valve and cover may readily be removed from the said valve

JOURNAL BOX FOR ROLLING-MILL PINIONS. To Homer Hamilton, Youngstown, Ohio.— July 23.—1. A journal box in one piece of

inlet or outlet valve, and an intermediate attachment, R, having one or more openings, r<sup>5</sup> r', into the stove, each of which has two or more openings leading therefrom.

5. The valve-body A, sliding disk-valve B.

16404.—Boiler Iron.—Joseph T. Ryerson, Chicago, Ill., assingor to Charles L. Bailey & Co., Harrisburg, Pa.—July 23.

17. S.''

18. The arbitrarily-selected letters S. F. B., T. S.''

6556.—Oiler for Lubricating Machinery.—
Consolidated Fruit Jar Company, New
Brunswick, N. J., and New York, N. Y.—
Sept. 10.
"The designation 'CHACE."

6567.—Cast-Steel Bars, Plates, Rods and Wire.—Francis Hobson & Son, Sheffield, England.—Sept. 10.

"The arbitrarily-selected combination of



metal, lined as described, having the grooves ff', the end shoulders at at, and the rounded lining bearing a at the inner end for the shoulder of the pinion B.

2. A journal box constructed substantially sherein described, having a perpendicular hight equal to the diameter of the pinion B of a rolling mill, whereby the several boxes when in place will be equal in hight to the Aztec origin, ence occupied certain portions of the several pinions, to obtain the advantages stated.

3. A journal box in one piece of metal, lined as described, having the top formed by the longitudinal box ridges i i i.

4. A journal box of one piece of metal, lined, and

To H. L. Heaton, West Jefferson, Ohio.—July 23. —The thimble A, having interior screw threads and interior circumferen-

Mr. William L. Stone, well known as a Aztec not as yet classified, but probably of Aztec origin, ence occupied certain portions of Central and Eastern New York. He founds this belief upon sundry pipes, copper and brenze spear heads and spears which have been found within the last year or two near Seneca Falls and Saratoga Springs. The tarra-certa pipe is supported. Springs. The terra-cotta pipe is wrought with the Egyptian or Sphinx-like cast of features so different from any of the rough earthenwork of the American Indian, but not at all unlike the discoveries made in piece of metal, lined, and having the top grooves f f formed as described, in combination with the housings and the pinions of rolling mills.

BOPE SOCKET Some of the Ohio mounds.

Some of the Ohio mounds.

Some of the Ohio mounds.

Spear heads are identical in size and shape implements discovered in the abandoned galleries of the ancient copper mines of Lake Superior, and there can be no question of their prehistoric character.

It may interest the friends of President White, Commissioner McCormick, Mr. Beck-with, Mr. Walter Wood, Mr. Tiffany and other American members of the Legion of and interior circumferential shoulder a below said threads, the tapering thimble B, and the bisected tapering clamp G, having interior teeth i i in combination with a solid screw plug C.

ROLLING MILLS.

To Alex. Hooven and Wm. H. Adle, Norristown, Pu.—July 23.—I. In a machine for rolling metal, the combination, in the manner described and shown, of a series of rollers arranged relatively to each other, so that each roller shall be nearer the roller which follows than to the one which precedes it, Honor, to know that the legion is composed

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Manufacture
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Spooner & Collins,

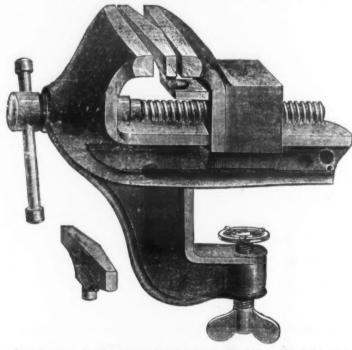
# beting Plane.

We show in the accompanying cut an im-

Bonney's Swivel Jaw Vise and Rab- uates of the universities, seem to have taken advantage of this faint glimmer of instruc tion which the working classes possess, and have been quick to put before them books which teach the wildest ideas in regard to

We show in the accompanying cut an improved swivel jaw vise manufactured by C. S. Bonney & Son, 4739 Pearl street, Frankford, Philadelphia. Its construction and operation may be briefly explained:

A small lug is cast on the sliding jaw just over the nut. In this lug a hole is bored to receive the stem of the swivel jaw. The swivel jaw is straight on one face and tapers toward both ends on the other, having a bearing at the point of convexity against the center of the moving jaw. In Hence, on tightening the vise the swivel attachment adjusts itself to the shape of the piece to be held, and takes a firm grip. If desirable the swivel can be taken out and the tool used as an ordinary parallel vise at any moment. The swivels are made of cast steel and carefully fitted. The screw

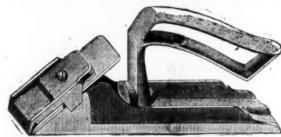


has a long bearing in the sliding jaw, and the vise is cast with a clamping attachment, which is firm to hold and quickly fastened to a bench. The claims of the maker of this vise are for cheapness and simplicity, there being so little extra work upon it that it can be manufactured at a far less cost than many others now before the public.

We would also call attention to the impact of the work of the work on it is only prosecuted under tremendous difficulties. All the power used in drilling is furnished by compressed air, which is prepared outside by powerful pumps and stored up in vast tanks. The locomotives which draw from the tunnel the blasted rocks are also run by compressed air, as the use of steam in such a hole would be impossible.

We would also call attention to the impact of the public of the province of the public of the province of the

we would also call attention to the improved rabbeting plane, another of Mr. Bonney's inventions, and which is also illustrated herewith. It is designed to rabbet on both sides and close up to the end; for this purpose a false front is attached, which is a battle. These gases would collect and be mortised into the side and fastened by screws in such a way as not to project beyond the planed surface of the side. By this device the blade can be made the full



to its forward extremity. It will, there-fore, smooth very close into a corner.

### The Russian People.

as much as II per cent. During the reign of Catherine II no attempt was made to educate the masses, and the efforts of Peter the Great were mostly directed to technical instruction. The autocrat Nicholas seemed to take scarce any interest in schooling his people, and it was reserved to the present Emperor to introduce a system of popular education founded on a solid basis. In 1862 new regulations were made, tending to promote education among the peasantry and to reclaim them from the deusest ignoand to reclaim them from the densest ignorance. According to official reports, there are 25,303 primary schools, with 1,152,712 pupils. If the Russian census be correct, this number of scholars is an exceedingly small one in proportion to the population. It should be fully 10,000,000 to 12,000,000. It n 1872 the amount spent in the empire for instruction was \$30,000,000, of which one-sixth was furnished by the state, the rest being defrayed by the provinces and by private henevolence. Some efforts have been known, there have been few, if any, "big vate benevolence. Some efforts have been made by the communes to make attendance made by the communes to make attendance at schools compulsory. As portions of Russia are very sparsely inhabited, the system adopted in Norway, of having movable schools, has been suggested. The weak portion of the Russian school system seems to be in the difficulty of procuring proper teachers, discharged soldiers of the crassest. teachers, discharged soldiers of the crassest of a surplus production, and this, in a large ignorance often occupying the position of degree, has been accomplished. By the masters. The awakening of the Russian intel-

width of the plane, and also to reach almost to its forward extremity. It will, therefore, smooth very close into a corner.

The Russian People.

The force is as large as can be put on. It is vastly to his interest to hurry, for he will receive a bonus of \$1000 for each day previous to October 1st, 1880, on which he has his task finished. The tunnel will cost about \$55,000,-000, although when it was first undertaken the The population of European Russia being estimated at something like 77,000,000, of which 64,000,000 belong to the rural class, it becomes interesting to learn what has been done for the education of this vast mass of peasantry. Some progress has undoubtedly been made in rudimentary instruction. In examining the slight educational tests to which the conscripts are held, in 1866, only I per cent. of the newly enlisted men could read and write, whereas in 1870 the average of scholars was raised to as much as II per cent. During the reign ooo, although when it was first undertaken the estimates were some twenty millions less than the above figures. The discrepancy was occasioned by engineers' mistakes, and when it was found that the enterprise would be much more expensive than originally announced, the discovery nearly discouraged all concerned. But the Swiss, Italian and Garman governments increased their subat the small wages paid, averaging form 60 cents to \$1.25 per day. A writer speaks of them as the Chinese of Europe, but we doubt if even John would not demur at being asked to do such laborious, exhausting and danger ous work for the same amount of pay

Europe as an Export Field.—The senior number of a large hardware exporting firm mercial tour of Europe, speaks encouragingly of the Continental market for American turned only a fraction above actual cost, and not a few have been sold at a loss. So far as known, there have been few, if any, "big strikes" among those of our more enterprising merchants who have acted as pioneers in this field of enterprise, and, as might have been expected, some of the more sanguine of this number now confess to a feeling of disappointment. The primary idea, however, was to rid the home market masters. The awakening of the Russian intellect from a long slumber has not as yet brought with it the happiest results. Suddenly endowed with an imperfect education, with that liability the Russian has to rush to extremes, the peasant has been brought each office to face with his not ever-happy surgoundings. Reckless Russian students, gradents.

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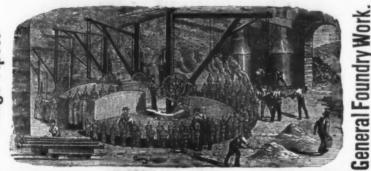
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2, 3 qts. ..5½ inch, \$6.25 doz. Page 25—Tea Kettles..... 4.25 doz. 12 qts. 6.00 doz. Page 37—Dish Pans, Common......\$3.25 3.75 Dish Pans, IX.......\$4.50 Feeling assured that the Trade will appreciate this advance, by which prices will be again established upon a more profitable basis, to the benefit of all dealers,

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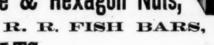
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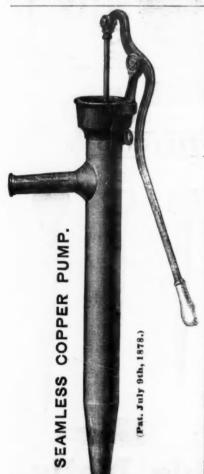


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The David's Island Wicket Dam, near Chamoin system of dams in France, has Pittsburgh.

There is at this time in Pittsburgh much interest concerning a national work which has been began in the Ohio River, six miles below the city. This work is the French, or Chamoin, dam, to the subject of which Congress has at various times during the past few years given attention, but whose con-struction has been, from various impedi-ments, delayed until the past summer. It is intended that this dam, which is modeled after the peculiar system of dams employed in the rivers of France, and which is the first of its kind to be attempted on a large scale in this country, shall serve the imme-mediate purpose of a local improvement to the city of Pittsburgh, forming slack water in the two rivers which unite here to make the Ohio, and creating a harbor six miles in length with at least 6 feet of water throughout the year. The secondary interest of the out the year. The secondary interest of the work—the experimental one—is, however, by far the greater, and it is looking to this that the recent arrival here of the government engineers, Colonels Merrill and Mahan, for the purpose of making an actual beginning of the dam, has reawakened in this locality, which is the headquarters of the commercial interests affected by the improvement, the excited discussions which provement, the excited discussions which from time to time for several years past have taken place before Congressional committees over the proposition for its construc-

If, when completed, the dam succeeds in all the respects in which a dam may be assumed to have success, it is undoubtedly destined to be only the first of a series of similar dams, extending from the head waters of the Ohio to its mouth, converting the river at low tide, throughout its 1000 miles of length from Pittsburgh to Cairo, into a locked canal, and changing the character and direction of some of the most important commercial interests of the West and South. While the wrangle goes on here between monopolies which are threatened and interests which hope for advancement through the building of this government work, a de-scription of the French dam and the history of its introduction into one of the largest of American rivers will have a public interest. American rivers will have a public interest. The cynical John Randolph, who, like Sidney Smith's querulous bishop, would have spoken disrespectfully of the equator, said of the Ohio River that it was "dried up one-half of the year and frozen up the other half." From John Randolph's time to this, the question of some improvement of this river which would make it at all seasons navigable has been a national one. Four years ago Major W. E. Merrill, of the United States Engineers, who for the past 11 years has had the superintendence of government expenditure in Ohio, and who had exhausted the study of engineering devices for the substantial and permanent improvement of this river, recommended to Congress the expedient of hydraulic gates and movable dams, the scheme of which, as applied to European rivers, he had just examined in France. This expedient met with violent opposition from various sources, especially from the representatives of the large coal dealers of the city who appeared that their inter-HOWE SCALE COMPANY, of Rutland, Vt., ests as trading monopolists would super through any system of improvements which should make their business upon the river accessible to small traders. The opposition Are Guaranteed Superior to all others.

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10 A LICE 111

11 Sac authority over the improvement. This concession was made last winter by the Governor and General Assembly of the State, with the result above stated. \$500,000 was appropriated, to be expended under the direction of the War Department for the improvement of the Ohio River, and from the movements here the determination to devote the larger part of this appropriation to the construction of this work is ap-The peculiarity of the French dam is that

it is the dam of low tides. That is, it is the dam which is set up against the stream when the stream is low, diverting the water into of the river, allowing navigation to pass over it in its usual course. The dam is raised or lowered by means of a series of of a pa ceived the name Chamoin, after its inventor, is simply an extended series of wooden wickets from four to six feet in width, and from 10 to 15 in length, placed side by side on end on a stone platform at an angle of 80 degrees (from the horizontal) across a river bed. Each wicket as it faces the stream has behind it a cast-iron prop, whose into navigable slack water, and the Seine from its head waters to Rouen into a canal.

The dam to be constructed on this principle in the Ohio River here at Pittsburgh is one of the largest of its kind, the main dam being 1200 feet in length and composed of 200 wickets. The lock will be the largest in the world. It will have a width of 110 feet, the world. It will have a width of 110 feet, and will admit the passage in bulk of an entire coal fleet. The engineers who have made a calculation showing that if all the the work in charge announce their intention to prosecute it with such energy as to complete it within a year. Colonel Mahan, who is stationed here in immediate superintendence of this improvement, and who is intimately familiar with the operation of the twelve months.

staked his professional reputation upon the staked his professional reputation upon the success of the present work, asserting that "there is no more doubt of the event than of the ability of a solid foot of iron to bear up a silver eagle." If, when the work is completed and tried, Congress decides to adopt the system for the permanent improvement of the Ohio River, probably not less than \$20,000,000 will be required to convert through this means its whole length, at low tide, into navigable slack water. The entertide, into navigable slack water. The enter-prise receives its large present interest from the fact that it is a national one, and at the same time introduces a foreign engineering device for the improvement of one of the most important of American rivers.

#### The Spanish Patent Law

We give below some extracts from the Spanish patent law which will be found interesting

Section 1 .- Upon every Spaniard or foreigner who may intend to establish a new in-dustry in the dominions of Spain, or who may have done so, is conferred the exclusive right of carrying on such industry during a certain number of years, provided he con-forms to the rules and conditions stipulated in this law.

Section 2 .- The right alluded to in the

Section 2.—The right anuded to in the foregoing clause is acquired through patent procured from the government.

Section 3.—The following objects may be patented: Machinery, apparatus, instruments, mechanical or chemical processes, or operations wholly or in part of own inventors or new on which without these condition or new, or which without these condi-tions may not be established or carried on in tions may not be established or carried on in the same manner and form in the Spanish dominions at the time of application for a patent. All new products or results of industry obtained either by new or previously known means, provided their production creates a new branch of industry in the country.

Section 4.—A patent obtained under the provisions of section 3 is not to exclude other patents for the production of similar.

other patents for the production of similar goods

Section 5 .- This law recognizes to be new Section 5.—This law recognizes to be new in the sense of section 3 only such goods or processes as are unknown, or have not been established, or are not being produced or carried on either in Spain or abroad.

Section 6.—The right to a patent direct or transferred may be retransferred by conforming to the law of property in force in the Spanish dominions.

Section 7.—A patent may be issued either

Section 7.—A patent may be issued either to a single individual or to several individuals, or to a company, whether they be

Spanish or foreign.

Section 8.—Every patent issued has equal force of law both in Spain and the adjacent islands, and in the transatlantic provinces as well as in other remote provinces of Spain.

Section 9.—The following cannot be pat-

I. The result or product of machinery, apparatus, instruments, processes or operations named in the first sentence of section 3 unless comprised in the second sentence of the same paragraph.

II. The use of natural products.
III. The principles or scientific discoveries which are still in a state of the purely speculative, and have not taken body in the shape of a machine, apparatus, instruments, process or mechanical or chemical operation of a practical individual shape at the same of a practical individual shape at the same of the practical shape at the same of the same o of a practical individual character.

IV. All pharmaceutical preparations or

V. Plans or combinations of credit and

Section 10.—No patent is allowed to cover to than one individual object.

Section 11.—All patents will be issued without a previous examination of novelty or usefulness, and shall in no way be looked upon as an endorsement that they are either new or useful. The patentee himself will have to establish this upon his own responsibility, and in doing so will have to conform to whatever this patent law establishes.

DURATION AND COST OF PATENTS Section 12.—The duration of patents for inventions is to be for 20 years, and they cannot be extended if they are for articles of own invention and new.

All patents not for own inventions or not new ones will be valid for 5 years only and cannot be extended. A patent will, however, be granted for the term of 10 years for goods of own invention, even admitting the case that a patent has been issued for the same object in one or more foreign countries, provided the patent has been applied for a lock after the manner of a canal, and fall-ing in ordinary times prone on the bottom nal foreign patent was granted to the ap-

Section 13. - In order to be able to make use raised or lowered by means or a series or props which are handled by a simple process. The gate of the canal is opened and closed by hydraulic power, operated from a gigantic tank at an elevation on the river bank. In detail, the French dam, which has received the name Chamoin, after its inventor, its simply an extended series of wooden the treasury will have reached 50, 100 and 200 pesetas or francs.

Section 14.—All such payments are in ad-

river bed. Each wicket as it faces the stream has behind it a cast-iron prop, whose lever • id is adjusted when the dam is up in a hurter or catch, at the head of a slide on the platform of the structure, along which it can be lowered at pleasure, the wicket falling with its prop, the whole dam being let down by degrees, according to the necessity made by the rising water. Such is the character of the dam, which is everywhere employed for the improvement of the low-tide rivers of France, which converts the Saone, the Meuse, the Marne, the Yonne and the Oise into navigable slack water, and the Seine the Sange for Cuba, in processing the secondary of patents is concerned. Spain is a country of great physical resources, and so are its colonies. The nation is just emerging from innumerable difficulties, but by virtue of the activity and endurance of its populations will no doubt accomplish wonders during ensuing years. A patent obtained has equal force in the rich colonies of Cuba, the Philippine Islands and Porto Rico, and the great obstacle with which our manufacturers have had to contend, that of obtaining patents. the olies had to contend, that of obtaining patents cheaply for Cuba, is now removed. We therefore trust our inventors and owners of valuable patents will bestir themselves and not allow the English and other Europeans to secure advantages cheaply at our very doors.



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th which any one can cut circles in glass, 15 cents each.

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# Keystone **CLOTHES WRINGERS**



Wood Frame Cog-Wheel Wringers. Price per doz. \$60,00 63.00 68.00 HIXING d Frame Friction Wringers. Size of Rolls. IOXIX IOXIX Self-Adjusting Iron Frame Friction Wringers. Price per doz.

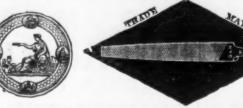
10X1% 10X1% 11X1% 51.00 54.00 08.00 EVERY WRINGER WARRANTED.

Special rates given for export. Send for price list of other goods for home and export trade.

F. F. ADAMS & CO.,

Erie, Pa.

# Black Diamond File Works.







Awarded by Jurors of Centennial Exposition, 1876, for "VERY SUPERIOR GOODS."

G. & H. BARNETT,

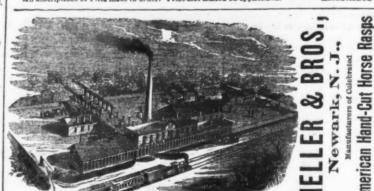
39, 41 & 43 Richmond St., Philadelphia.

CHARLES B. PAUL Manufacturer of HAND CUT FILES.

Warranted CAST NTELL.

All descriptions of Files made to order. Price List mailed on application.

Retablished 1863





# The Ausable Nails

Are Hammered Hot,

And the Finishing and Pointing are Done Cold,

Thus Imitating the Process of Making Nails by Hand.

Quality is Fully Guaranteed.

For Sale by all Leading Iron and Hardware Houses.

ABRAHAM BUSSING, Secretary, 4 Warren Street, New York. Fre

Noi

of var and c Tribuson o Co.'s Count Court. Cincin Canad every dorsed Wor

162

The only GENUINE D. R. BARTON Tools

THE D. R. BARTON

ROCHESTER, N. Y. AGENCIES HEATON & DENCKLA, 507 Commerce Street, Philadelphia, Pa. H. O. STRATTON.

HUNTINGTON, HOPKINS & CO., NATHAN WEED. 4 Gold Street, New York.

SILVER'S SAUSACE STUFFERS

Silver & Deming Family Sausage Stuffer and Fruit Press Combined.



Liberal Discounts to the trade. Manufactured by SILVER & DEMING MFG. CO., Salem, Ohio.

# A. FIELD & SONS

TAUNTON, MASS.,

MANUFACTURERS OF

AMERICAN AND FRENCH

# WIRE NAILS

TACKS, SHOE NAILS,

And Every Variety of Small Nails.

Offices & Factories at Taunton, Mass.

Warehouse at 78 Chambers St., New York,

where may be found a full assortment of Tacks, Brads, Wire Nails, &c., for the accommodation of the New York Wholesale and Jobbing Trade.

Any variations from the regular size or shape of the above-named goods made from sample to order.

A SILVER MEDAL has been awarded above goods at the Paris Exposition, being the only medal awarded any American manufacturer of Tacks and Wire Nails.

# Machinery

Chicago.

The Upright Family Scale



Weighing 12 lbs List \$16 per

Liberal Discount

This Scale has a attachment for Taking the Tare. Just the thing for family use.

JOHN CHATILLON & SONS, 89, 91 and 93 Cliff St., NEW YORK.

Geo. M. Eddy & Co.,

# MEASURING TAPES.

Of Cotton Linen and Steel. Paine's Patent U. S. Standard Steel Measuring Tapes,

Pat. Spring Measuring Tapes of Lines and Steel.
FINE TEMPERED STEEL SPRINGS.
INE TEMPERED STEEL BAND SAWS, From M inch wide upward. Warranted tougher to any other Band Baw. Catalogues on application

# PRIZE MEDALLISTS:

London, 1862; Oporto, 1865; Dublin, 1865; Paris, 1807; Moscow, 1872; Vienna, 1873, and only Award and Medial for Self-Coiling Steel Shutters at Centennial Exhibition, Philadelphia, 1876.

# CLARK & CO.,

ORIGINAL INVENTORS AND SOLE PATENTEES OF

Noiseless Self-Coiling Revolving

STEEL SHUTTERS,

FIRE AND BURGLAR PROOF.

Also Improved

# ANSONIA CORRUGATED STOVE PLATFORM



Section Showing Edge.

ANSONIA Bronzed Fire Screen,

With Ornamented Mouldings.

PATENT APPLIED FOR.

The Portable Bronsed Fire Screen or Shield, as shown in the illustration, is especially designed for the safety and protection of walls, furniture, woodwork, paper or varnish from heat.

Being constructed of metal, with firm and substantial edges, curved in form to stand alone, it may be easily adjusted to any position about a stove, before a grate or fire place. The elemand for something useful, durable and ornamental as a Fire Screen has long been felt, and having finally accomplished the desired result, we are prepared to fill all orders promptly.

Ansonia Brass & Copper Co. Office, 19 & 21 Cliff Street, NEW YORK.

The Ansonia Corrugated Stove Platform, with its heavy figured ogee border, is believed to be the best. Platform offered to the trade, As shown in the illustrated section herewith requires no nailing to keep it in place or to prevent it from turning up at the edge; while the metal is of sufficient thickness to require no lining.

The low price, superior quality and fine finish of this Platform will be readily acknowledged. Packed 34 in a case, send for price list.



# **BROWN & SHARPE MFG. CO**

Providence, R. I.,



# MACHINERY & TOOLS.

Gears Cut and Index Plates Made and Drilled to Order.

PATENT CUTTERS FOR THE TEETH

GEAR WHEELS

can be sharpened by grinding without changing their form. Cutters made on this plan will outlast many of the old form, with the advantage of being always ready

for use. If the cutter becomes dull before a wheel is completed, it can be taken out, sharpened and returned to its place in a few moments without risk of altering the form of teeth to be cut. Cutters for milling any irregular form made to order on the same plan. Parties having occasion to use mills for irregular shapes on sewing-machine, gun er other work, will readily see the advantage such cutters possess over those in general use, both as regards economy and convenience. Descriptive circular

# SABIN MFG. CO.,

MONTPELIER, VT., Manufacturers of

# PATENT DOUBLE ACTING SPRING BUTTS,

Sabin's Lever Door Springs

For Heavy Doors.

The BOSS and CROWN SPRINGS for Screen and Light Inside Doors.

#### Metallurgical Notes.

#### A NEW AMALGAMATOR.

A new amalgamator, differing radically from any hitherto constructed, has been pat-ented by the Firmin Forster Co., of Phila-delphia, Pa. While as yet no definite re-sults have been published beyond the state-ment that its work comes within two per cent of the assay value, it descrives attention from its originality. The amalgamator consists of a vessel varying in size, into which one or more streams of dry or semi-fluid ore is fed. Immediately behind the feed funnel the quicksilver enters by a pipe, being forced into the ore in an atomized condition by a jet of steam, compressed air or water. The ore and mercury are carried forward in the vessel with great rapidity until the mixture strikes the opposite side of the vessel, from which it falls into the washer, where the amalgam and surplus quicksilver is gathered. ered. Sulphuretted ores must of course be roasted previous to going to the amalga-

COMPRESSION OF STEEL

The attempts to remove blow-holes from steel by means of compression have been numerous and varied, steam, explosive mixnumerous and varied, steam, explosive mixtures, &c., being employed with some success. Some experiments made at Chaléassière were published in the Comptes Rendus de la Soc. de l'Ind. Miné., from which we take the following as likely to prove of interest to American metallurgists. It was noticed that when a lid of cast iron was placed upon a mold after casting, the ingot produced generally showed a zone of blowholes near the surface and on all sides, while within it the block was entirely sound. within it the block was entirely sound. Whenever the mold was not covered the entire mass contained blow-holes. This, it was argued, was due to the pressure of the gases, and consequently experiments were made by Bouniard with more than 100 tons of by Bouniard with more than 100 tons of steel, which proved that a pressure of 6 to 10 atmospheres acting upon the interior of the ingot would make the metal solid. The mold is covered with a lid in which there is a central casting opening. It has a pipe through which steam may be introduced. The steel is cast through the central orifice, which is closed and then steam is admitted. which is closed, and then steam is admitted. A copper wire is used for packing the lid. The work must be rapidly done and the mold be previously heated. In order to make the action of the pressure affect the interior of the ingot the chilling of the surface must be prevented, which is done by heating, before casting, the fire-brick lining of the inner surface of the lid. The ingot thus cast shows a depression on its upper surface. It was found that in using steel for cannot the number of compressed inguts. which is closed, and then steam is admitted for cannon the number of compressed ingots rejected was only one-third of the number of ordinary cast ingots. Experiments made to apply the same principle to steel castings showed that although the application was more difficult the result was the same.

DOLOMITE FOR DEPHOSPHORIZING IRON.

Kunkel recommends, in the Oberschles Zeitschr., dolomite for eliminating phosphorus. In the blast furnace he replaces simestone by dolomite in proportion to the amount of phosphorus. In the cupola he puts a layer of 2 to 10 inches of dolomite upon the bottom, and proposes to line puddling furnace hearths with a mixture of four parts of iron ore and one part of dolomite. Kerpely has made some experiments on a small scale with smelting ore with dolomite. and found that although 30 to 40 per cent. of phosphorus was eliminated, the results were unsatisfactory. His test cannot, however, be considered conclusive.

ON THE VALUE OF THE CHEMICAL ANALYSES

OF STEEL. In a communication to the Chemical News Mr. Sergius Kern, of St. Petersburg, pro-tests against a mistake made by many met-allurgists of judging the value of steel from its chemical composition. He says many think that steel containing 0.30 per cent. of carbon distinctly differs from steel containing 0.29 per cent. of carbon. In fact, at present there is too much chemistry in metallurgy. Mr. Kern had an opportunity of analyzing six specimens of steel plates which were rejected, as they gave inferior results on being mechanically tested. Sup-posing that this arose from the inferiority of the steel, analyses of these specimens were made, which, however, showed the contrary; the steels chemically were all very fine specimens of Siemens-Martin metal, and were, after rolling, annealed.

A. Mechanical Tests of the Samples. Breaking weight. Elongation The length of the specimen was 8 inches. B. Chemical Analyses of the Samples.

Carbon. Mang. Silicon. . . 0.23 0.03 0.01 0.01 0.06 It appeared, as was ascertained afterward,

that the plates could not stand the required death by starvation, more or less prompt, mechanical tests because of the inferior are still 10,000,000, perhaps, of whom relief workmanship.

TUNGSTEN STEEL.

A branch of metallurgy which at one time gave fair promise of rapid advances has from the co-operation of many circumstances quite faded out of view and has retained a very limited field of utility only. At the London exhibition of 1862 tungsten steel and tungsten products figured promi-nently, but owing to a lack of proper chem-ical knowledge of tungsten compounds, which was not limited to technical men only, but extended to scientists as well, and owing 

tin, which would lead to the conclusion that the tungsten ore had not been sufficiently purified from cassiterite, with which it is generally associated. The method of working tungsten ores was introduced in 1848. It consisted of melting the ore in a reverberatory furnace with soda and some saltpeter, lixiviating with water and crystallizing the tungstate of soda. E. W. L. Biermann of Hanover reduces the ore in an ordinary reheating furnace. The finely pewdered material is well mixed with 25 per cent. of charcoal powder, and is formed to a dough with lime water or tar. This mass is shaped into pieces of the size of a nut and charged into an ordinary crucible, which is covered air-tight with a lid luted on with red lead; 15 to 18 hours exposure to an intense heat tin, which would lead to the conclusion that 15 to 18 hours' exposure to an intense heat completes the reduction. The reduced mass competes the reduced mass is ground and washed to remove any charcoal dust it may still contain. This method, it would seem, is more simple, and is a good step in the direction of decreasing the cost of a material which has undoubtedly the property of essentially modifying the quality of both iron and steel.

#### Chili's New Tariff.

The Vice-Consul of the United States at Valparaiso has transmitted to the Department of State the act of last July, establishing the new tariff to be levied on all goods imported into Chili. By this act all foreign produce or merchandise entered for consumption shall pay 25 per cent. on their valuation, with the exception of the following articles: 35 per cent. on all articles of luxury; 15 per cent. on hardware and ironmongery in general; 4 per cent. on precious stones and pearls, and the following articles on which specific duties are levied—the duties formerly paid are inserted in articles on which specific duties are levied—the duties formerly paid are inserted in parenthesis: Brandy, \$4 per dozen, ordinary size (\$3): brandy, not in bottles, 42 cents per liter (27 cents); coffee, 15 cents per kilogram (10 cents); ciga-s, \$3 per kilogram (\$2): spirits of wine, 50 cents per liter (27 cents); gin, \$3 per dozen bottles (\$3); gfh, not in bottle, 32 cents per liter (27 cents); liquors, \$4.50 per dozen bottles (\$1.50); snuff, \$3 per kilogram (\$2); tea, 75 cents per kilogram (\$5 cents); white wine, \$3 per dozen bottles (\$2); white wine, not in bottles, 32 cents per liter (15 cents); red wine, \$2.25 per dozen liter (15 cents); red wine, \$2.25 per dozen bottles; red wine, not in bottles, 25 cents per liter (10 cents).

Free Goods:—Bar steel and iron, tar, anchors, wire ropes, cables of large size, telegraph wire, cotton, cotton wire, coal, barley, oats, fire extinguishers, rough staves, chains, printing apparatus and printers' ink, wool,

printing apparatus and printers' ink, wool, Indian corn, printing paper, lead, oil seed presses, rosin, wheat, &c.

Articles subject to a duty of 15 and 25 per cent. shall also pay an additional tenth of the value of such duty. The reasons assigned for this great increase in the imports are an increase of the revenue and the protection of home industry. The Vice-Consul doubts the prudence of the increase for the country.

Omaha Nail Works .- This enterprise, Omaha Nail Works.—This enterprise, which started last spring with such apparent energy, seems to have reached a stopping point. We understood at the time that stock enough had been subscribed to cover the amount called for by its originators, and upon which amount they based their promises to go ahead with the work. Now, if that is true, we would like to inquire what has been done? A frame building and a pile of empty kegs, together with a few castings and two or three large boilers, are all that can be seen by a superficial ers, are all that can be seen by a superficial observer. We are also informed that the managers are crying more money. If more is needed, why in the name of common sen o did not the experienced men who made the estimates state that fact in the beginning? However, we do not wish to make insinuations or charges of any description, but it will probably be necessary for the officers of that corporation to make some showing before long or people will imagine a weakness at some vital point in the Omaha Iron and Nail Works.—Omaha Exchange.

The horrors of the Chinese famine are impossible to describe, and happily inconceivable to American minds. At a recent meeting in Dublin Sir Thomas Wade, British Minister to China, said that five provinces, covering an area of 350,000 square miles, with a population of over 120,000,000 (three times that of all the United States), have been so stricken with drought that the ordinary sources of food have been almost uniary sources of 100d have been almost entirely dried up, reducing to a state of starvation not less than 15,000,000 people. Not long since the Christian Union published a letter from China, in which it was stated on the authority of the Governor of Shan? see, that the number already starved and frozen was estimated at 6,000,000. Whole villages had been depopulated; dogs and fowls, and every living thing but crows and carrion birds were dead. The London esforcen was established; and the control of traces of tra are still 10,000,000, perhaps, of whom relief will be too tardy to save perhaps, 2,000,000; while if the rains are denied in Shan-see, Ho-nan, and Shen-see again this spring, nothing but foreign or divine interposition will save 10,000,000 people from death.

> General S. V. Benet, Chief of the Ordnance Department, United States army, has completed his annual report, showing in detail the operations of that branch of the ser-vice during the fiscal year ending June 30,

# RUSSELL & ERWIN MANUFACTURING COMPANY

# Manufacturers of HARDWARE.

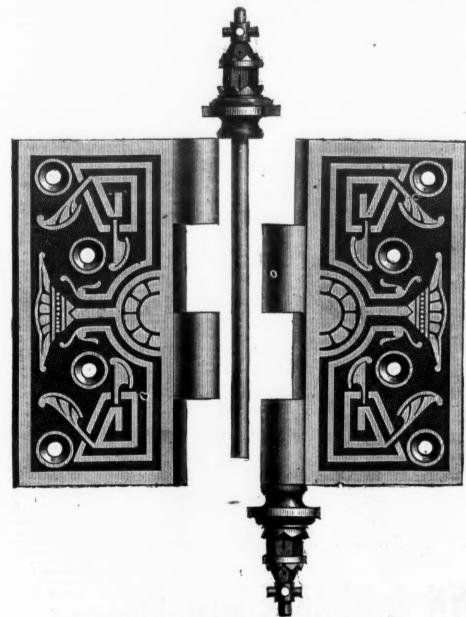
FACTORIES, - - - NEW BRITAIN, CONNECTICUT, U. S. A.

MANUFACTURERS' AGENTS AND DEALERS IN GENERAL HARDWARE AT OUR

WAREHOUSES: NEW YORK, 45 & 47 Chambers Street; PHILADELPHIA, 425 Market Street; BALTIMORE, MD., WM. H. COLF, Agent, 17 South Charles Street.



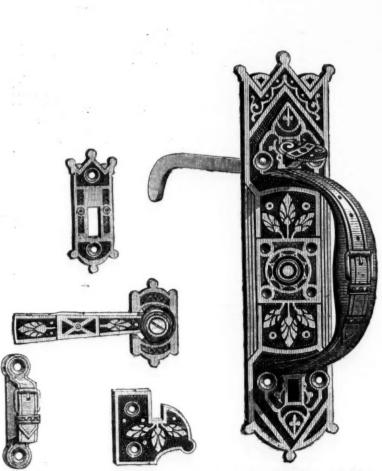
Bronzed Fire Iron Stand, No. 20.



"Kahala" Bronze Loose Pin Butt, No. 8015.



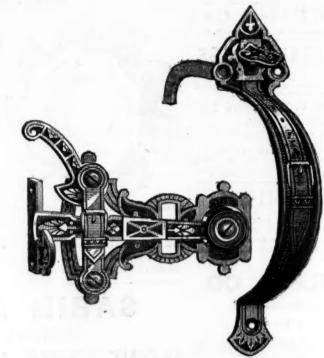
"Kahala" Bronze Fire Iron Stand, No. 8621.



"Kahala" Bronze Store Door Handle, No. 8002,



"Kahala" Bronze Barrel Bolt, No. 8000.



Kahala" Bronze Drop Thumb Latch, No. 8090



"Kahala" Bronze Drawer Pulls, No. 8003.

Encouraging Features of our Foreign

The imports and exports for the month of September are thus reported by the **Bureau** of Statistics, gold values:

Trade.

Merchandise...\$37,399,541 \$34,781,983 \$3,627,538 \$90ele...,....1,577,688 3,840,388 3,263,694

Merchandise....\$57,924,808 \$50,290,322 \$7,634,186 Specie............553,985 3,083,611 2,429,626

Total......\$58,578,793 \$53,373,933 \$5,204,860

Last year, as compared with 1876, there was a marked monthly increase in goods im-ports from March to November inclusive. Then a decline set in, which continued for the

nine months ending with August last. September now breaks the continuity of this declining movement, showing an increase of \$2,600,000 over the same month in 1877. The following shows the goods imports during the same month in 1877.

ing the nine months, compared with the

April, July and August excepted, the bove comparison shows a marked decline,

not only from the imports of last yearwhich were larger than in 1876—but from those of 1876. September, however, shows

those of 1876. September, however, shows a very material increase as compared with either year, and although the fact cannot safely be taken as the foundation of a prophecy, it does indicate that the point of rally in the import movement has again been reached. As to goods exports, the increased movement still continues. Here is a heavy increase in Scutember as

Here is a heavy increase in September as compared with last year, and although September falls a little below the previous

45,514,000 47,626,000 40,905,000 39,248,000 34,782,000

two previous years:

.\$38,977,229 \$38,622,365

Cutlery.

# FRIEDMANN & LAUTERJUNG

Solid Steel Scissors, Shears, Razors, Russia Leather Strops, Hones, &c.

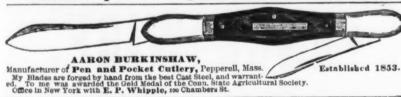
ELECTRIC RAZORS," And the "ELECTRIC SHEARS." Nickel Plated

Agents for the BENGALL RAZORS. AMERICAN TABLE CUTLERY BUTCHER KNIVES, &c.

01 Chambers and 73 Reade Sts., N. Y. 423 N. Fifth St., ST. LOUIS, MO. MERIDEN CUTLERY COMPANY.

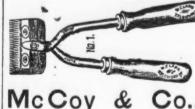
THE "PATENT IVORY" HANDLE TABLE KNIFE,

The oldest manufacturers of Table Cutlery in America. Exclusive makers of the CELLULOID E for Table Cutlery. A most beautiful and perfect substitute for Ivory. Also makers of all kinds of BUTCHER AND HUNTING ENIVES. Illustrated catalogues with prices sent to the trade on applica No. 48 Chambers Sirred. New York



AUGATUCK CUTLERY CO.,

Cutlery.



134 & 136 Duane Street, New York,

SOLE WHOLESALE AGENTS

CLARK'S PATENT HORSE CLIPPER

rice list, which we will send on application. The genuine are stamped on both the wooden

and metal parts, as shown in the illustration, as a protection against inferior imitations.

Cutlery.

# JOSEPH S. FISHER,

No. 411 Commerce St., PHILADELPHIA George Wostenholm & Son.

"Limited."
Washington Works, SHEFFIELD, Celebrated I-XL Cutlery, Razors,&c

WALTER SPENCER & CO., Steel and File Manufacturers, Rotherbam, ENGLAND.

Corporate Mark

NOSPENCER ROTHERHAM

Granted 1777.

# HERMANN BOKER & CO.,

101 & 103 Duane Street, New York,

SOLE AGENTS FOR THE



are now furnished with Rubber, Bone, Stag and Wrought Iron Handles.

All of Gardner's Patent Knives are fully warranted.

STANLEY RULE AND LEVEL CO.,

**Improved** Carpenters' Tools.



FACTORIES. New Britain, Conn. WAREROOMS,

> 29 Chambers St., New York.

CELEBRATED CUTLERY.

F. & W. CLATWORTHY. Agents.

The demand for Joseph Rodgers & Sons' productions having considerably increased, they

have, in order to meet it, greatly extended their Manufacturing Premises and Steam power To distinguish Articles of Joseph Rodgers

& Cons' Manufacture, please to see that they bea their Corporate Mark.

I. R. SPENCER & SON,

Albion Steel Works, Sheffield

MANUFACTURERS OF

FILES

AND

STEEL

CORPORATE MARK

Granted 1749.

ALFRED H. HILDICK,

12 Warfen St., N. Y., Importer of CHAINS, ANVILS, VISES, &c.

Agency of HILL BROTHERS & CO., WALSALL, ENGLAND, GENERAL HARDWARE MERCHANTS, And of

BALL'S PAT. SOLID STEEL SHEEP SHEARS.

These shears are unsurpassed for cheapness, durability and utility. They are made of one solid piece of steel from point te point, and cannot be broken in use either in the bow or at the junction of the shank and blade. Samples can be seen at above address, or sample lots furnished.

SPENCER

113, Improved Adjustable Circular Plane

September falls a little below the previous month, it increases largely over June and July. On looking back to 1877 and 1876, also, we find that only one month in the nine (January of 1877) equaled September of this year, and that all the other months in the three quarters of those years fell very largely under this September. Taking the period of nine months for comparison, we have the following: have the following:

IMPORTS, JANUARY-SEPTEMBER. 1878, 1877. Changes. \$324,598,631 \$371,314,249 \$46,715,618 .... \$2,277,588 \$8,117,074 4,160,514 84.00 Total...... \$346,876,219 \$389,431,323 \$42,555,104

> EXPORTS, JANUARY-SEPTEMBER. Domestic.... \$523,266,447 \$417,185,418 \$106,081,024 Foreign..... 10,462,676 8,589,165 1,873,511 Total goods \$533,729,118 \$425,774,583 \$107,914 535 Specie...... 21,935,628 42,823,854 26,868,226

Total ... . \$555,684,746 \$468,598,437 \$87,086,809 Goods imports thus show a decline of \$46,700,000 from last year, and goods exports an increase of about \$108,000,000, Joseph Rodgers & Sons' making a net change in the movement at the rate of \$205,000,000 a year. As to the trade balance, the following shows the result No. 82 Chambers Street, New York. for the nine months, the first table excluding

and the second including specie: NINE MONTHS ENDING SEPT. 30.

1878. 1877. Changes. \$324,598,631 \$371,314,249 \$46,715,618 Exports... 533,729,118 425,774,583 107,954,535 Exp't excess \$209,130,487 \$54,460,334 \$154,670,153 ... 346,876,219 389,431,323 ... 555,684,746 468,598,437

Exp't excess \$208,808,527 \$79,167,1.4 \$129.641,413 On goods alone the trade balance for the term of nine months is \$209,000,000,000, or at the rate of \$279,000,000 per year; including specie, the figure is a little less than this. In specie alone the following is the move-

ment: 1878. 1877. Changes. \$22,277,58\$ \$18,117,074 \$4,160,314 42,823,834 20,868,220 \$321,960 ..... \$24,706,780

The exports of specie are only about onehalf what they were last year, and the imports nearly one-fourth more, making a net change of \$25,000,000, and turning an export movement into an import one, since the beginning of the year, besides retaining Table Knives, Razors, Shovels, &c., &c., all the beginning of the product. This remarkable change comports also with the change in the trade of Great Britain as respects specie, as appears in the following, the years being calendar:

SPECIE IMPORTS INTO GREAT BRITAIN,

S INTO GREAT BRITAIN.

From all countries. United States.

\$52,693,000 \$57,433,003
0,350,000 \$6,310,000
23,901,000 \$6,310,000
33,7688,000 30,735,000
35,868,000 30,735,000
47,951,000 15,668,000
47,951,000 15,668,000
\*15,178,000 15,667,000
\*15,178,000 15,667,000
\*15,178,000 15,607,000
\*15,000 15,500,000
ept in 1876—that this

This shows—except in 1876—that this country has been by far the greatest source of coin supply for Great Britain, and the effect of the almost total stoppage of that supply is visible in the fact that for the past 20 is visible in the fact that for the past 20 months Great Britain has been subject to a net loss of coin, instead of her former net receipts of it. The natural result of this fact, and of the unprofitable condition of her trade, is a reduction in prices of her goods, which may reasonably be expected to increase somewhat our goods imports from her, and to some extent te unfavorably affect her takings of ours. The special significance of this unwonted coin movement has been so often pointed out in our comments upon the course of trade that we need ments upon the course of trade that we need not dwell upon it now.

A company formed last season to search for coal in the west part of Durham, Mass., have satisfied themselves, after boring some 300 feet or more, that the coal lay too deep for their capital, and they have recently sold their diamond drill to a company in Seymour, who are boring for silver ore.

HALL, ELTON & CO., Electro Plated Ware, German Silver and Britannia Spoons.



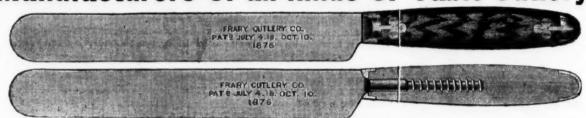
Factories, Wallingford, Conn.

Salesroom, 75 Chambers Street, New York.

#### CUTLERY FRARY

FACTORY, BRIDGEPORT, CONN.

# Manufacturers of all kinds of Table Cutlery.



The above Illustrations represent their New Patent Screw Tang Lock Fast Solid Handle Knife.

There is no question but that a solid handle Knife is much more preferable than a scale tang. The great objection to their use hitherto is, that no solid wood handle has been placed on the market with the handle properly secured—no handle put on with cement will stand the wear and tear of every day usage. The sement will expand and contract with the action of heat and cold, and become loose, crack and come off, causing great projudice against their use. This objection is overcome in our patent screwtang. A wood screw is welded to the tang of the Knife or Fork, and screwed firmly and securely in the handle and looked there by the bolster, making a very strong neat and handsome anife, which we warrant never to get loose, crack or come off. We manufacture a large variety of patterns, both Table, Butchers and Carvers, and farnish the neaton handle nearly as low as the vale tang. We are prepared to farnish this line of goods, together with the scale tang and from handle, very promptly, and very respectfully invite the attention of the trade.

Porcelain, Nickel-Plated and

Bronze Whistles.

FRANCIS MANY,

Levers, Slides, &c.

Plain or with indicators,

Speaking Pipe, Bell Tubing,

### PATENT MINERAL WOOL

Entirely Fire Proof, Undecaying, and the Best Non-Conductor of Heat, Cold and Sound.

Used extensively for lining steam pipes and boilers, underground and open air pipes, water tanks, refrigerators, cold storage houses, roofs and walls of dwellings, drying kilns, deadening floors of railway passenger cars, &c. ALEXANDER D. ELBERS,

No. 26% Broadway, New York Address P. O. Box 4461

# SPECIAL NOTICE.

The undersigned, in view of the Paris Exhibition of 1878, begs to inform his friends that he continues to make translations of Catalogues, Prices-current, Circulars, Correspondence, &c., from and into the

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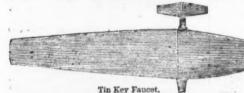
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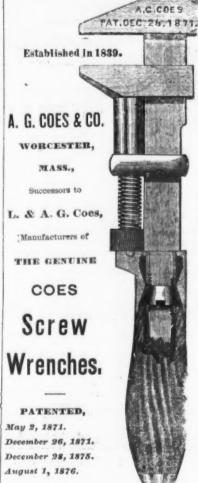
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Thirty-fi/th Page -Boston and St. Louis Hardware and Metal Prices.

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rubber goods, and that a large and increasconfidently expected.

#### The British Empire.

The fact that the next few years promise to be fruitful in events of momentous im portance to the British Empire, is conceded not only by foreign critics but by the most intelligent and thoughtful of British statesmen and economists. We have every reason to hope that the issue of forces now at work will be favorable to the permanence of England's present position among the nations of the world. That her foreign policy has been characterized by the greed of gain in some respects, and that in her many wars of the yard stick "human life and the rights of other nations have been held less sacred than they should have been, is true; but it must be admitted that, on the whole, Great Britain has wielded the immense power she has acquired in one way or another for the advancement of civilization and the benefit of the human race. Where ever the British flag has been planted it has been regarded as the emblem of civil order and religious liberty, and her commercia enterprise has been attended with incalculable benefit to the world at large. Admit-ting that the pages of English history are stained with the records of many great sins against the rights of weaker nations, and that some of these stains are fresh, the fact remains that British influence has been potent in promoting the progress of civilization, in rendering more intimate and beneficial the intercourse of nations, in developing the world's resources, opening free highways for commerce, suppressing piracy and the slave trade, and holding in check the lawless ambition of sovereigns who have recognized only the right of might. So close are the ties which connect the British Empire with the rest of the world, that what ever should cripple the power of England or sap the foundations of her national prosperity cannot but be attended with consequences which must excite grave apprehensions. Thoughtless people who imagine that if once deposed from her high place among the nations, her accumulated wealth dissipated, her industries paralyzed and her commerce de stroyed, we should gain great and important advantage therefrom, must be shortsighted indeed. Such calamities are not probable, if possible, but if they should come from any cause they would be attended with results disastrous beyond computation. But while the foundations of England's greatness as a power are planted too deep and strong to be overthrown by events which can now be counted among the probable happenings of the future, there is much in the situation and the outlook to warrant the British people in feeling anxious.

It cannot be denied that the British Empire is placed by the results of long and obnoxious intermeddling in foreign affairs in a position of peculiar difficulty and responsibility. From causes which need not here be noted in detail, Great Britain has for feited the sympathies of the leading powers, and is to-day practically without strong al-The peace of Europe is, at best, precarious, and it can scarcely be broken with out involving Great Britain to some extent. In Afghanistan she has a difficulty on her hands which, judging from present appearances, cannot but lead to war, and in Cabul another which threatens to culminate within half a year at the furthest. The Eastern question seems no nearer a settlement now than it was when the late desperate war between Russia and Turkey began. It is liable to be reopened at any time. If the leashes which hold in check the eager dogs of war slip through the hands which now Eleventh Page.—Encouraging Features of our hold them lightly, Russia may again grasp to fright Trade. Foreign Trade.

Fourteenth Page.—The British Empire. The from her by the powers, and in view of her World's Commerce.

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Steamship Line. Western Trade—An Encouraging statesman who directs for the time the affairs of the British Empire, is good so long as it is really or seemingly successful; but if it ends in failure it cannot but involve the British people in diastrous wars for which they are but imperfectly prepared, and which can only result in humiliation and the loss of much that now makes Great Britain a power among nations. Thought ful men saw this no less clearly than now when the crowd threw up their hats and lustily cheered the gentlemen who had not only brought Great Britain through the recent crisis of the Eastern difficulty "without dishonor," but had also contrived to secure a bit of new territory right under the noses of the half dozen great powers who were watching the progress of events with jealous interest.

Intimately connected with the Eastern problem in its several phases, not all of which are well understood outside of diplomatic circles, is the question of the future of British India. Whether the Indian terrierish its population and excite a restive desire British rule, it may cost more in blood and would derive much benefit from protection each, as the food of prisoners there alone costs \$13.62 a head. And not only is there such proof of poverty where wealth that it does. sufficient to sustain England and her manufactures has been expected, but the fortility of the country is being rapidly destroyed. Despite the poverty so shown taxation has been increased from \$125, 000,000 in 1857 to \$250,000,000 now, and annually-all a further loss to that country, and a dead loss, now so long continued that India is bankrupt and British business vitally hurt."

Looking at the colonies, we find that they are gradually but surely assuming the character of independent states, owing Great Britain scarcely more than a nominal allegiance, which may be severed at any time that events shall render such separation desirable. Canada has already placed herself in an attitude of hostility to the most sensitive of British interests, and has formally elected a government which enters office pledged to enact a tariff for the protection of home industry against foreign competition—that of British manufacturers included. All of the more important British colonies are manifesting a like disposition to build up within themselves the elements of an industrial and commercial independence, which, of course, implies a desire to dispense, as far as possible, with British manufactures. They are colonies scarcely more than in name, and what they add to the material power of the British empire would count for little if British interests were weighed in the balance against the interests of their own people.

Looking at the condition of affairs in Great Britain proper, we find that it is well our readers may be able to draw a comparison calculated to excite alarm. England, more than any other country of the world, is suffering from the effects of an over-expansion of manufacturing industry. Her capacity to produce is adjusted to the requirements not only of her own markets and those which are open to her, but of those which are closed to her as well. On every hand her manufactures are meeting a competition which seems to place an effectual barrier in the way of any extension of her foreign trade, if it does not threaten the permanence of that which she still retains. During the past twenty years the world's progress has been so rapid and general that it has been impossible for Great Britain to remain in that position of supreme comm cial and industrial advantage which she had assumed by virtue of her higher and more regularly developed civilization, her wealth gained by commercial enterprise and her civilizing and enlightening influence in every quarter of the globe. She has not fallen from her high estate, but other nations have by more rapid strides gained the same plane, and are now anxious to retain for themselves the wealth they once poured into British coffers in exchange for the products of British skill and industry. the consequence, she is gradually losing her monopoly of the more desirable foreign markets, and is not only cut off from many, but is experiencing a competition which ten years ago no British manufacturer would have deemed possible. She is also handicapped to some degree by the conditions which in times past contributed most to her industrial greatness. Her people are so inflexible of purpose and so grounded in stolid conservatism, that they cannot, or will not, so readily adapt themselves to changed conditions as do the peoples with fewer traditions and fewer inherited habits of work and thought. That the trade which Great Britain is now losing will ever be regained is extremely improbable. Other nations have caught a livelier inspiration of progress, and are so rapidly and generally diversifying and extending their industries that their competition must inevitably become more and more serious. There are, of course, countries where the industrial arts are still unknown, and lands with so rude a civilization that the labor of their people can still be employed to best advantage in the raising of raw materials. To supply such markets with manufactures is still the profitable privilege of Great Britain, which she can retain so long as she provides her manufacturers with better facilities of ocean carriage than are enjoyed by those of any oth country. But even this is no longer her monopoly. Other nations are eagerly seeking outlets for their surplus of manufactures, and other flags than the British are beginning to be seen wherever attractive opportunities for trade are known to exist. Great Britain is no longer in a position to secure for her people the advantages they have enjoyed through the negotiation of treaties framed in the interest of British trade. The efforts of her free-trade propaganda have signally failed to accomplish lasting results in Teutonic ...2.085.2 Latin ...1.602.8 Sclavonic and Greek

shaping the tariff policy of other countries,

and she now stands almost alone in clinging

vantages claimed for it by economists of the ing trade in these and other lines may be for change which makes the people of all british school. We do not know that, conconfidently expected.

British school. We do not know that, conconfidently expected. treasure to hold this great territory than it but it is quite certain that the tendency of is worth. It is asserted that "the average financial legislation in other countries is not "gross annual produce of India, estimated in the direction of free trade, and that the "at \$1,500,000,000, represents only \$8 per only reason the free-trade idea holds its capita when divided among 190,000,000 ground in England is because the masses of inhabitants, whose living must cost \$11 the people do not and cannot be induced to each, as the food of prisoners there alone believe that British industry needs protection. Generally speaking, it is not likely

We do not wish anything we have said to be regarded as the expression of a belief on our part that the British empire is on the verge of dismemberment or Great Britain on the verge of bankruptcy. We have no such idea, nor would it be warranted by 16 per cent. on the gross income, or \$1.28 facts or probabilities. But we do believe per capita, is taken by taxation from the that Great Britain has long passed the point people of India, whose average produce is only \$8 per head. Beyond this, English minated. Every year will make her less residents there send home \$100,000,000 formidable as a competitor for the control of the world's trade. Should she become involved in costly wars growing out of any of the possible causes now at work to threaten the peace of Europe, and which must certainly culminate before many years, increased burdens of debt and taxation must increase the cost of British products, and her vast commerce on the seas would be an easy prey, as ours was, to the cruisers of a maritime enemy. That all of these possible misfortunes may be averted and the British empire be left to work out in peace and prosperity its destiny, should be the hope of prosperity its destiny, should be the hope of every American citizen. Should misfortune or disaster overtake Great Britain, all the world would suffer in consequence for a generation to come. Perhaps the necessities of her position have forced her to assume the responsibilities and become entangled in the complications which now menace her future: but no such necessity involves future; but no such necessity impels us to follow a like policy, and we can well learn from her experience to "avoid entangling foreign alliances." but no such necessity impels

#### The World's Commerce.

We have succeeded in procuring the import and export statistics for 1876 of all countries except Switzerland, whose custom houses take note of quantities only. These statistics we have arranged in groups, that

	at a glance. Every	thing	has been t	beaubea
	at a giance. Every	- O	r tables o	mhreco
	to millions of dollar	s. Ot	it ranies e	morace
ij	merchandise only:			
	11	UROPE.		
				ot. trade
	United Kingdom	1875.8	1283.8	3150.6
1	Germany	978.4	037.4	1015.8
ı	France	797.0	715.2	1512.8
I	Russia	364.4	332.6	707.0 564.8
1	Austria	203.2	297.6	520 B
1	ILBIV	205-4	243.4	508.8
1	Belgium	289.8	212.0	508.4
1	Spain	115.0	127.0	343.0
-	Sweden	70.2	50.0 62.4 50.6	141.6
	Denmark	79.2 64.2	50.6	78.4
J	Spain Turkey Sweden Denmark Norway Portugal	49-4	29.0 26.6	- 78.4
1	Portugal	16.2	28.4	58.4 44.6
1	Roumania	24.0	15.3	39.2
1	Greece	6.4	7.8	14.9
ı		-	-	A special party limited
1	Total			9970.0
1	11	MERICA		
1	United States	485.0	604.4	1089.4
1	Brazil	100.3	207.0	207.2
1	Argentine Republic	36.6	85.G 48.8	85.4
1	Argentine Republic	39.3	37.8	77.0
1	CARDIN CLOSE CONTRACTOR	30.0	35.0	77.0 65.0
1	Parm	25.0	30.4	64.4
1	Mexico British West Indies	30.4	33.2	03.0
1	Mexico British West Indies French	13.6	15.4	43.3 38.0
1	French "Uruguay	14.0	13-4	37.4
1	Porto Rico	15-4	9.0	34-4
1	Venezuela Central America British Guiana Colombia	11.2	13.0	23.2
1	Central America	7.3	13.4	22.6
1	Colombia	7.3	13.4	17.8
1	Colombia	9.0	8.2	17.3
1	Newfoundland	7.6	6.8	14.4
1	Bolivia	5.8	4.0	5.2
1	San Domingo	1.8	1.6	3.4
1	Dutch Guiana	1.4	1.3	2.6
ı	Bolivia Ecuador San Domingo Dutch Guiana French "	1.4	0.3	1.6
1				2100.0
1	Total	-ASIA.	2237.3	3100.0
1				
1	British India	170.0	294.8	471.6 226.6
1	Sunda Islands	53.9	48.6	tor.8
1	Java and Madura	38.4	61.0	99-4
1	China. Sunda Islands. Java and Madura Japan. Ceylon. French Cochin China.	27-4	26.8	54.2
1	Ceylon French Cochin China	77.4	30.2	31.0
1	Sumatra (Dut. portion) Asiatic Russia	14.0	26.4	30.4
H	Asiatic Russia	16.8	7.0	24.4
H	Siam	7.8	9.0	16.8
	Persia French India	5.4	3.0	8.2
	Formosa	1.6	3.0	3.6
1	Labuan	0.6	0.6	1.9
1		-	6 6	-
1	Total		641.6	1130.6
I	IV.—AU			
. 1	Victoria	83-4	73.8 68.4	157.2
	Victoria New South Wales New Zealand	40.0	39.9	135.8
	South Australia	23.5	34.3	45.7
3			19.9	45.7 35.8
	Tasmania Sandwich Islands	0.0	5-4	3.8
	West Australia	1.8	9.9	3.8
	TOOL AUSTRELLE		-	-
,	Total	238.3	234.4	462.7
1	₹	AFRICA.		
1	Warnt	90.3	66.0	95.3
1	Algeria. Cape Colony	43.6	33.4	95.9 76.0
	Cape Colony	28.6	13.9	49.0
	Mauritius	22.4	5.0	94.6
- 1	Natal	5.3	9.9	8.4
1		0. 4	3.6	6.0
•	Tunia	2.4	3.4	5.8
	Zanghar	2.2	2.0	5.0
	Tunis	1.8	1.9	3.0
1	Tripolis	0.6	1.4	2.8
1	Gambia	0.6	1.0	1.6
١	Total	334.4	156.6	992.0
d	Total	134-4		-41.0

5,640.4 972.8 480.0 928.3

Total.....7-474-9

Anglo-Saxon nations..2.984.5

Total.... 7-474-9

Recapitulation.

201.0

13.960.9

3.680.0

3.159.0

4.336.2 2.127.2 642.6 224.4 256.6

6.486.0

2.597.6

353.2

6.486.0

The following are the groups by national-

ities:			
ANGLO-BA	NON MAT	TTONS.	
United Kingdom	1875.8	1983.8	3159.6
United States	485.0	604.4	1089.4
Canada	99.4	85.0	184.4
British West Indies	23.0	90.9	43.3
" Guyana Newfoundland	9.3	13.4	22.6
British India	7.6	994.8	472.6
Ceylon	26.8	30.2	57.0
Australasia	936.7	332.3	458.9
Cape Colony	28.6	20-4	49.0
Mauritius	11.4	13.2	24.6
Natal	5.9	3.3	8.4
Total	2084.6	2597.8	5582.1
TEUTON			33.4.1
Germany	978.4	637.4	1515.8
Austria	957.3	997.6	364.8
Netherlands	303.3	226.6	520.8
Belgium	98g.8	212.6	508.4
Sweden	79.9	62.4	848.6
Denmark	64.3	30.6	114.6
Dutch Guyana	49-4	29.0	78.4
Java and Madura	38.4	68.0	99-4
Sumatra	14.0	16.4	30.4
	-	-	
Total	2085.3	1594.8	3680.a
	MATION	В.	
France	797.6	715.2	1512.8
Italy	305.4	243-4	508.8
SpainPortugal	31.8	26.6	58.4
Roumania	16.3	28'4	44.6
Brazil	100.2	107.0	207.2
Argentine Republic	36.6	48.8	85.4
ChiliCuba	39.2	37.8	77.0
Peru	30.0	35.0	64.4
Mexico	30.4	33.2	63.6
Mexico	12.6	35-4	28.0
Uruguay	84.0	13.4	97.4
Porto Rico	15.4	9.0	34-4
Colombia	7.2	15.6	22.8
Bolivia	5.8	5.9	10.8
Ecuador	3.3	4.0	5.3
San Domingo	z.8	x.6	3-4
French Guyana	1.4	0.3	1.6
Algeria	42.6	33.4	76.0
Reunion Portng. Col. Africa	1.8	1.8	3.0
	-	-	atrement
Total		x556.a	3159.0
BCLAVONIC	AND G	REEK.	
Russia	384.4	399.6	707.0
Greece	24.0	15.9	39.2
Servia	6.4	7.8	14.9
Asiatic Russia	16.8	7.6	24.4
Total	431.6	353.2	784.8

The excess of import over export in most countries is explained by the circumstance that in many cases the value of goods on arriving in port is estimated at what they are worth when landed, which includes freight, &c., while goods exported are valued at the cost in the country of production when shipped.

England and her colonies and the United States, it will be seen, did in 1876, as they generally do, a considerably larger foreign trade than any of the other groups of nationalities.

Considering that with the exception of Holland the Teutonic nations possess no colonies and count a much smaller population than the Latin nations, taken together it must be confessed that they do a very large trade, owing to the fact that on the one hand they are very laborious and active, and that on the other their geographical position in Northern and Central Europe is a most favorable one.

Russia and Greece are making considerable headway in trade and industrial matters. The rivalry between Russia and England in Asia principally arises from close competition in manufactured goods in Central Asia. The Greek do an enormous carrying trade in and beyond the Mediterra-

To Americans the most interesting and promising group is that of the Latin nations, since these, generally speaking, produce little except raw materials, and consume enormous amounts of manufactured goods. We have shown in many articles on this subject that on an average the Spanish-American nations and Brazil receive about 85 per cent. of their dry goods, hardware, &c., from Western Europe, and that we furnish them at the most the re-maining 15 per cent. If during the remainder of this century we succeed in selling them annually 33 per cent. of what they consume of manufactures instead of 15 per cent., we shall have accomplished a great deal, and on this, together with the expansion of our Australian and Cape trade, our Our flour energies should be chiefly bent. provisions, petroleum and lumber they and the nations of Europe are bound to take in ng qua being able to compete with us, and no extraordinary efforts are necessary in this direc-It is different with manufactures, most of which these nations take from Europe on account of the extraordinary facilities, especially in point of credit, which England, France and Germany grant them, and partly also through the frequency of their steam communication at comparatively low freights, and not so much because the goods are better or cheaper. But the more firmly we grasp this trade and the more it expands, the greater will be the facilities which we also can extend to those nations. The following table shows the fluctuations in the world's trade beginning with 1867, leaving out 1871, of which we have no statistics : Imports . 5828.6 . 6082.4 5225.0 5503.6 6660.2 11053.6

7773.0 7251.4 7474-9 24441.9 23699.8 13960.9 The foregoing shows the enormous expansion which has taken place all over the world since 1870, the increase having been 25 per cent. between 1870 and 1874. The recoil, it will be seen, has been considerable, but by 1876 a good portion of it had been recovered.

A novel Temperance and Saving Fund Society has been formed among the puddlers 284.8 and heaters at the mill of A. M. Byers & Co., Pittsburgh. Each member pays into the treasury fifteen cents per week, which sum is deposited in a savings bank on interest. he thinks he cannot afford to be strictly ver in this country is believed to be somefall a victim to intemperate habits three pended upon, times within a month, he forfeits his membership, and the self-denying enes who are due regard for the moralities of trade, surprising: drunk only twice profit thereby, like all good boys in the stories. It is rather a severe all his business dealings by certain well destrain on those who live on the banks of the fined rules. He will, of course, keep his Monongahela, famous for its whisky, to resist its seductions. The idea is a good one, but it suggests a serious practical difficulty, namely, deciding when a man is drunk and when he is sober. How will this be done?

#### The Minor Moralities of Trade.

There has been a good deal of preaching of late about commercial morality, and it is to be hoped that it has not been wholly without good effect in impressing business men with the importance and benefits of conducting their dealings on the principles of honor and integrity. Most of this excellent talk has related especially to the payment of honest debts and the maintenance of an unsullied business credit. Far be it from us to intimate that we do not consider this the first and greatest of business virtues; but it is not the sum of all the virtues, nor will it alone win for a business man that little regard for the small moralities of busihonorable reputation for fair dealing which every self-respecting and ambitious merchant should desire and strive for, whether the amount of his business in a year be counted by hundreds or by millions. There are many men who pay their debts promptly and boast that they owe no man anything who have earned and often justly merit a follow them to the grave. There are many others who, though bankrupt in fortune and handicapped for life by judgments they can never hope to satisfy, enjoy the confidence and esteem of all with whom they have had business relations, and who in their poverty and unsuccess are men whom everybody trusts and whose reputations for honesty nothing can shake. For this reason we say that all of business morality is not summed up in the prompt payment of one's debts. There are a thousand things which go to make or ruin a man's business character and reputation which might be included in what, at the head of this article, we have called the minor moralities of trade. The merchant or manufacturer who disregards these is no more entitled to recognition as a man of honor or integrity than is the fraudulent bankrupt who fails in the hope of increasing his capital.

The small manufacturer or tradesman is always subject to temptations of a peculiar kind, especially in times like these when one must plan and contrive how to live and "make both ends meet." His trade is small and it is difficult to extend it; his margins of profit are so narrow that he is often uncertain whether any profit remains after expenses are charged, and he is frequently forced to meet the competition of stronger men who shape their business policy so as to ruin all rivals if possible. On the other hand, he has seen more prosperous times and has perhaps acquired tastes and habits which it costs an effort to deny or restrain. Perhaps he has an expensive family, or lives on a scale which costs him more than he can afford, but which he can not contract without making a humiliating confession of poverty which he fears might reader his creditors suspicious. Perhaps he is merely ambitious of acquiring wealth rapidly. In either case he is apt to grow restive under the restraints of the busines methods which he was content to follow when trade was better and profits larger. He is tempted to take advantage of every expedient by which he can make his profits large and the volume of his sales greater. How he does this, if he does it at all, de pends of course upon circumstances. If a manufacturer, he may seek to hide inferior materials and workmanship under a super ficial excellence of finish which will deceive the buyer; if a tradesman, he may seek certhem at a better profit than he can those honestly made of good materials. He may gain a brief advantage by these or other dishonest expedients, but he cannot fail to reap his reward in unexpected ways. He may think his tricks successful, but long before he knows it his customers have learned to suspect his honesty. He may not fail nor suffer an apparent loss of patronage, but it is quite certain that he will have gained nothing in the long run, and that what he adds im mediately to his wealth by violations of the small moralities of trade, he borrows from the future at a rate of interest which would frighten him if he knew how large it really is. Untruthfulness, a neglect of engagements

and a forgetfulness of promises are very common sins against business morality, and many men are guilty of these who would promptly and indignantly resent the charge they were not to be believed. might cite examples without end, but the principle is the same in every case and we should only waste space. We simply wish to impress upon the mind of the reader the plain fact that the honesty which is proverbially the best policy is not merely the kind of honesty that the law demands and that keeps a man out of the hands of the sheriff or the police. The honest tradesman or mechanic should value his honor in small things as well as in great. He cannot afford Of this amount \$47,226,107 was gold and to lose his reputation for fair dealing and \$46,726,314 silver, or an excess in favor

The mechanic or tradesman who has a credit good. A man who is honestly unable to pay his debts often enjoys a better credit than many another who can pay but is regarded as a difficult man to collect from An honest intention, with perfect frankness and sincerity of statement, will often do much to secure a man business friends and make it a pleasure for others to help him when he needs it. He will make no promises which he does not feel sure he can keep, and when made he will keep them promptly and cheerfully, at any cost of personal inconvenience. He will not misrepresent any thing he sells or does. He may be mistaken, but he will never descend to the meanness of deception. In short, he will prove himself in everything a man of his word, and when he honestly seeks to merit as well as enjoy a reputation for truthfulness and honesty, he is not likely to make any serious mistakes nor to follow a wrong policy. Others less scrupulously honest and with ness, may prosper more than he for a time, but he will outlast them in the esteem and respect of all good men. Many a great merchant, beginning life without capital, has owed his success and wealth to his wellknown habits of business integrity. It does not follow, of course, that every man of at points where interference will be less strict and known honesty will succeed in reputation for utter dishonesty which will life and gain wealth. Such a man may even be a bankrupt and find himself in old age without a dollar in the world, but he will not lack friends, and he will have no oceasion to mourn a misspent or wasted life if he can write upon the last page of his unbalanced account book or upon the closed doors of his factory or store, "Honor alone

### The Duty on Siemens-Martin Steel.

Mr. Swank, Secretary of the American Iron and Steel Association, has been notified that the decision of the Treasury Department, rendered May 27, 1878, as to the duty on Siemens-Martin steel, is to be challenged in the United States Courts by the Globe Nail Company of Boston, and that the case is to come on for trial during the coming winter. It will be remembered by our readers that the circumstances attending the raising of the question as to the proper classification of Siemens-Martin steel were as follows: On the 1st of November, 1874, the Secretary of the Treasury decided, when appealed to by the Collector of Customs at Boston, that the product of the Siemens-Martin or openhearth process, being intended and used for purposes to which steel is applied, was to be classified as steel, and that all importations of such material were to pay the duty imposed upon steel of like grade. This decision was replaced by an order of the Secretary of the Treasury to the Collector of Customs of Boston, dated July 14, 1876. In this communication it was held that "both iron and steel are produced by the Siemens-Martin process, and consequently, the fact that the metal in question was manufactured by that process is not of itself conclusive ground for classifying it as steel." The nestion, it was claimed, was one of fact, which should be left to the judgment of the appraisers, based upon the results of such tests in each case as are recognized by experts and practical workers of metals. This decision brought out a series of able communications on the subject, which were printed in The Iron Age during the latter part of the year 1876 and the beginning of 1877. Foremost among them was a protest by the American manufacturers of steel, while the others bore the signatures of such eminent experts as A. L. Holley, A. S. Hewitt and R. W. Raymond. The decision of 1876 had the effect of creating a confusion which any other country sible in than this. At Boston Siemens-Martin metal was entered as iron, while at New York it was classified as steel, without even provok ing any protests from the importers in the latter city. The matter received the attention of the Treasury Department, and the decision against which an appeal is to be made was rendered. This decision, addressed to the Collector of Customs at Boston, and bearing date of May 27, 1878, provided that as, in the opinion of partment, the classification as iron of metal produced by the Siemens-Martin process is erroneous, all such metal is to be classified hereafter as steel and pay duty accordingly. It is to be hoped that the decision of the courts in this matter will settle those vexatious disputes between importers and the government which have grown out of the contradictory rulings of the Secretary of the Treasury and the absurd differences which have existed in the classification of Siemens-Martin metal at the several ports

The statistics embodied in the report of the Director of the Mint give some interesting information respecting gold and silver production. During the past year great care has been taken to make these figures accu rate, and it appears that the production of gold and silver together was \$93,952,421. veracity, and this is never so true as when of gold of \$499,793. The production of sil-

of importation.

To increase the fund, a member is fined fifty honest. At such times the public can least thing out of all proportion to that of gold, cents each time he gets drunk. Should he afford to deal with a man who cannot be de- and for that reason the following figures, which show the yield in the greatest mining States, will be as interesting as they may be

Locality. Gold. Silver 814er. Total.

\$15,360,676 \$2,373,389 \$1,764,068

19,546,513 28,130,350 47,676,863

3,360,494 \$1,394,494 \$1,761,344

2,360,511 1,160,053 3,39,446

1,150,000 2,200,000 1,350,000 Total ..... \$41,584,704 \$39,768,314 \$81,353,418

#### Labor Troubles in the Glass Works at Pittsburgh.

From time to time as they have occurred we have noted the labor troubles connected with the glass trade of Pittsburgh. These have been mostly in the table ware and chimney branches. For the last 16 or 18 months strikes and lockouts have been of constant occurrence. The primary cause of the trouble in most cases has been the introduction of machinery. The strike of the chimney blowers, which has now been in progress for nearly a year and a half, is against a machine crimper which does work formerly done by hand better and more rapidly. A short time ago there was a strike against an improved mold. Growing out of these troubles others have arisen from the employment or discharge of workmen obnoxious to the unions. The result of all this is that the trade has been in a most demoralized and uncertain state. Owners of factories have in disgust abandoned their works at Pittsburgh, and built new works and pressure upon their workmen more expensive to the unions.

As another result of these troubles the flint glass manufacturers have resolved to adopt heroic treatment, and on the 7th of the month they posted the following notice in their works:

PITTEBURGH, Nov. 7, 1878.
In order to remove all cause for misunderstandings and unpleasant disputes, which have become very frequent of late, in regard to the numbers to be made for a turn work, and also in regard to ou manner of conducting business, which unquestionably is our affair, and not that of the hands.
We hereby give notice that we will hereafter pay pressers, finishers, handlers and gatherers by the

presers, integers, hadness and gatherers by the hundred, and require five hours' work for a turn. That we will make such articles as our trade may demand, and work such molds as we desire. We will hire or discharge as may be for the best interests of the factory, and will not submit to dic-tation in any form ation in any form.

We will expect you to give us a definite answer as to your action in the matter by Thursday, Nov.

These are bold words, and the manufacturers claim that they are ready to back them up by boarding up every factory in Pittsburgh if necessary. A prolonged meeting of the Glass Workers' Union was held Sunday evening, with what result we cannot state at this writing, but from what we can gather it is not probable that the proposition will be accepted in its present shape, and as the manufacturers assert that they will not modify it in any essential particular, a lockout seems inevitable. The employers say that the arbitrary and dictatorial policy of the employees has reached a point where patience has ceased to be a virtue, and that the proposition submitted is only what is reasonable and just, and is simply a statement that they will control their business.

The result will be watched with a good deal of interest. It is to be hoped, if the claims of the manufacturers are just, that they mean what they say and will assert their rights at the cost of a struggle. It must come to this sooner or later. As we have so often said, united action on one side must be met by the same on the other. and we look with confidence for the day when on these questions capital will be as united as labor. It will be better for both

The Brooklyn Bridge has come to a standstill. In the Supreme Court, last Monday, Judge Barrett rendered a decision on a motion on behalf of Henry C. Murphy, president of the Bridge Company, for a writ of peremptory mandamus to compel the Controller of New York to raise \$1,000,000 on bonds of the city of New York and pay the same over for the construction of the bridge. It was especially argued on behalf of the Controller that the statute directing the payment in question limited the gross appropriation for the bridge to an amount already exceeded or certain to be exceeded. Judge Barrett held that the powers conferred by the statute were subject to the proviso that the bridge was to be completed at a cost of not more than \$8,000,000. As it was conceded by the trustees that the structure would when completed cost more than this sum, it was clear that the cities would be called upon to pay \$8,000,000 and then receive an unfinished structure, or else do what the Legislature had said they should not do

pay a sum in excess of this amount. Of
the wisdom of thus limiting municipal some the wisdom of thus limiting municipal serv-ants in the execution of public trusts there was no doubt, and the c ourt should favor construction which tended to check improvi-For these reasons he ion. Public opinion in dence and waste. For these reasons he should deny the motion. Public opinion in New York will generally approve. Judge Barrett's decision. The bridge is a gigantic mistake at best, so far as New York is concerned, and it looks now as if Brooklyn would be compelled to finish it or do with-

At the recent annual meeting the following persons were elected officers of the American Society of Civil Engineers for the

James B. Francis, vice-presidents; John Bogart, secretary; J.J. R. Croes, treasurer; and the construction of lines. It is illustrated by quite a number of good cuts.

Vandervoort Smith, Thomas C. Clarke and Theodore G. Ellis.

The Swindell Furnace.

#### NEW PUBLICATIONS.

Proceedings of the Swedish Engineers' Society (Inceniörs-Föreningens Förhandlingar). Stock-holm, 1878. Edited by Prof. C. A. Angström.

The first and second parts of the thirteenth clume of the proceedings of the Swedish Engineers' Society are before us, the varied contents of which speak highly for the energy of its editor, Prof. C. A. Angström, who contributes largely to its pages. Among other interesting contributions we notice two papers on heating large buildings by E. A. Winan; Brandt's hydraulic drill, which has recently attracted much attention abroad, by Prof. Angström, who has written also the first installment of a beautifully illustrated article on the machine tools at the Centennial Exhibition. As a high tribute to the well-known firm of Wm. Sellers & Co., of Philadelphia, he translates the report of the jury of Group XXI, of which he was himself a member. The printing and the plates are exceedingly well finished, reflectng great credit upon the society, which eems to encourage original research by ther means also. We notice, for instance, other means also. We notice, for instance, that a call is made for essays on a variety of subjects, the prize accorded for the best ones on each being a gold medal bearing a medallion of Christoffer Polhems. The society have liberally opened competition to others outside of the society.

Brand-Book for Swedish Iron Works. (Stämpelbok för Jernverken, i Sverige, 1377). Put under the auspices of the Jernkontoret E. Ahrenberg and J. E. Ekman, Göteborg

We are indebted to Messrs, Samson & Walin, of Stockholm, for a copy of the new book of Swedish brands of iron and steel, just published under the auspices of the Jernkonteret by H. E. Ahrenberg and J. E. Ekman. It contains an enumeration of Swedish iron and steel works, giving in tab-ulated form the brand or brands of the product of each mill, its location, the owners' names, an enumeration of the shapes manufactured, the process of manufacture, the output, and miscellaneous additional information under the heading of remarks. Although the importation of Swedish irons into this country has greatly fallen off, a work which enables an ironmaster to trace the origin of a metal and compare its brand will prove of importance to many, and the fact that it is written in Swedish will detract little from its value to them, as the indexing facilitates rapid work in searching for any given works, and the body of the book may be understood at a glance by anybody. It is well printed and neatly bound.

Manual of Mineralogy and Lithology. By Jas D. Dana. Third Edition. Wiley & Sons, New York. Price, \$2.50.

The text books and manuals of the Danas

have for many years been the main source of information on mineralogy to American students. Contrasted with English and other foreign works, their distinctive feature has always been a peculiarly practical classi-fication and an excellent subordination of the more important minerals to the large class of those the occurrence of which is limited to favored localities. The classification of minerals has been the subject of much thought and of experimenting. The one adopted by Dana has the great merit of bringing into close relation the several ores of each metal, so that reference is greatly facilitated and value is given to short gen-eral articles on mines and mining, thus imprinting upon the matter relating to each metal the character of a monograph. The silicates are classed as anhydrous and hydrous, the former being subdivided under the heads of bisilicates, unisilicates and subsilicates, while the latter are grouped in sections. The de-scriptions of the minerals are short and clear, the distinctive difference of each being clear, the distinctive difference of each being specially noted. Whenever crystals are characteristic, a wood cut illustrates the main features. Frequently, when the chem-ical composition is complex, both the old and the new formula are given, which is very convenient for many who have not mastered the modern nomenclature, and which may aid many educated in the latter to under-stand older text books. Crystallography is well represented and explained by long introductory chapters, and students cannot fail, with the aid of paper or wood models, to arrive at a thorough comprehension of the subject. In the chapter on physical properties we note a good summary of the iron and steel, I find the following words: refraction and polarization of light as applied to crystallography. The blow pipe reactions are as well treated as limited space vill permit, and the author refers for further details to Prof. Brush's manual. details to Prof. Brush s manual catalogue of contains also the well-known catalogue of American localities, with a short notice of foreign mining regions. The course for the determination of minerals has been so arranged that it does not give to blow-pipe reactions that prominence which render con-siderable skill and practice in that branch of chemical work necessary, physical proper ties which at first sight attract the student's notice being largely relied upon for the first lassification. The greater part of this work (400 pages) is devoted to mineralogy, classification. and but a comparatively small section to lithology (50 pages). The classification is similar to that adopted by Zirkel. We notice with pleasure a short reference to the great modern application of the microscope to the study of rocks. The work is valuable to all who wish to study mineralogy, and should be placed in the hands of beginners, even if their object is to enter at a later date into a more detailed study, and by fixing the price at a low figure the publishers have placed it within the reach of all, while they have quite attractive in appearance by good printing and clear cuts.

A HAND-BOOK OF THE ELECTRO-MAGNETIC TELE-GRAPH. By A. E. Loring. No. 39 of Van Nos-trand's Science Series. Price, 50c.

Mr. Loring, a practical telegrapher, has sought to present to young and inexperienced operators the principles of the electro-mag-

#### The Swindell Furnace.

We have been aware for some months past of the very gratifying results that have been obtained at the works of Messrs. Miller, Metcalf & Parkin, at Pittsburgh, in the use of the Swindell furnace for puddling. We are now permitted to publish these results, and they cannot fail to be of interest results, and they cannot fall to be of interest to our readers, as they are the records of the first successful attempt in this country to use coal gas in puddling. The Swindell furnace is a continuous current regenerative gas furnace, the air used being heated by passing under the bottom of the furnace and over the top, traversing it with alternate flue with the waste heat. The furnace with flue with the waste heat which the work of which we give the record was done was built originally to experiment with the Du Puy process, and was afterward adapted to puddling. A furnace built ward adapted to puddling. specially with a view to puddling would probably give better results. This furnace in the alteration was divided into two long furnaces, some 8 feet from port to port by 4 feet wide from wall to wall. Each of them is regarded as a double one, the pudlers working side by side doing the double work on one flame. One very noticeable feature is the long reach of the flame, 8 feet from port to port. Five heats are worked per turn, the regular charge to each side being 1100 lbs. of No. 2 charcoal pig. The product per turn in round numbers is 11,000 lbs. of billets hammered to less than 4 inches square. In considering the following figures this must be remembered, as the time occupied and expense of fuel is much greater than when the balls are squeezed. In the time covered by this report the producers and furnaces were kept hot 116 days The number of single turns worked was 97. The furnace was idle 97 nights and 19 whole

Loss in billets over iron & scrap charged.. or 5.35 per cent.

Amount of wet fix used. bs.

Total yield, in tons of 2240 lbs.

Wet ore used per ton of yield. lbs.

Slack used, 11,760 bushels, at 76 lbs. per bushel. bs. 893,760 Slack per ton yielded...... used each 24 hours.... 7,704.82

Allow one-third more for double turn to keep the furnace up to full working heat, and it will produce billets for 1037 lbs. of slack per ton when running double turn. The cost of repairs and rebuilding at the

end of the run was : Bricklayers and laborers...... 15.00 Total ..... \$145.00

Cost, repairs and rebuilding per ton of yield, 32.84 cents. The furnace ran from March 10 to July 3. It was rebuilt and started the next week, and at this time (Nov. 4) it seems to be strong enough to run until Christmas without rebuilding.

#### Determination of Phosphorus in Iron and Steel.

To the Editor of The Iron Age-SIR : Unler the above caption there appeared in the Metallurgical Review of Sept., 1877, a paper by A. J. Prousse, Chemist of the Edgar Thomson Steel Co., Limited.

Mr. Preusse says: "During some experi-ments, a year since, I found that the use of aqua regia as a dissolvent gave very different results from nitric acid." From his use of the words "I found," one would suppose that the use of nitric acid as a solvent for iron in the determination of phosphorus had never been known before, and that Mr. Preusse originated that method. I find on referring to my note-book, May, 1874, that Mr. McCreath, of the Penusylvania Steel Works, at Harrisburgh, dissolves 100 grains of iron in I'v ounces of concentrated nitric acid and evaporates to dryness, adds I ounce of hydrochloric acid and again evaporates. By this means the phosphorus is oxidized into phosphoric acid. I had found considerable discrepancies between the results obtained when the iron was dissolved in aqua region and when nitric acid was used as a solvent, and would have drawn attention to the cir cumstance but for the fact that I knew that the observation was not mine. In Slater's " Handbook of Chemical Analysis," published Place 75 grains of clippings of the sample in an 8-ounce beaker, drench them with fuming nitrie acid, cover, and set aside in a cool place. After twelve hours, more nitric acid is added, and the beaker placed where it may not be heated higher than 212° F. When the solution is perfect, as may be known by the flocky appearance of the in-soluble matter, the cover is removed and the liquid gradually evaporated to dryness. Hydrochloric acid is now added, the cover replaced, and digestion continued until solu-tion is again effected," &c., &c. Long before Mr. Preusse came to this country been familiar with the use of nitric acid as a solvent for iron in determining phosphorus, as I have abundance of facts at hand to prove. There are several excellent methods for the determination of phosphorus to be found in Frezenius' Quan. Anal., and the use of molybdate of ammonia, followed by determination as pyrophosphate of magne-sia, is quoted by him from Sonnenschein, at p. 273 Frezenius' Quan. Anal., London, 1865, fourth edition. There is really nothing of any importance new or like new in Mr. Preusse's method, and it contains some errors which I could point out if I thought it worth while. GEORGE HAY, M. D., &c., Analyst.

Analytical Laboratory, 45 South Diamond street, Allegheny City, Pa., U. S. [In scientific discussions it is certainly un-

[In scientific discussions to be called a substance of errors with-usual to claim the existence of errors with-ment distinctly pointing them out. While we out distinctly pointing them out. While we regret that Dr. Hay has not been more explicit upon the question touched in the latter part of his communication, we print it as year beginning November 6, 1878: W. netic telegraph. It contains chapters on likely to prove of interest to metallurgical Milnor Roberts, president; Albert Fink and electricity and magnetism, on the Morse chemists.—Ed. Iron Age.] Workings of the Brazil Steamship Line.

Capt. Spicer, one of the gentlemen interested with Mr. Roach in the steamship line to Brazil, expresses himself cheerfully in regard to the prospects of the enterprise. The quantity of coffee now coming forward makes good freight, but how long these shipments will continue is uncertain. The business offering in New York is constantly increasing particularly as the general mer. increasing, particularly as to general mer-chandise. It is noticed, too, that Brazil is taking more of American machinery, or, more strictly speaking, fine machine tools. The latest movement has for its object the establishment in Rio de Janeiro of an Amer ican bazaar, a gentleman who has the agency for a number of manufacturers having taken for a number of manufacturers having taken passage on last week's steamer with this ob-ject in view. His proposition is to lease spaces in a structure which, in case of suc-cess, will be regarded as a permanent exhibit of the products of American industry. Capt. Spicer speaks of the opposition to the American line on the part of British the American line on the part of British merohants and ship owners as showing no abatement. In fact, it has rather increased than diminished, no device being left unemployed which might serve to thwart American enterprise. The fleet of thwart American enterprise. The fleet of 35 steamers belonging to rival lines transport freight at rates merely nominal, with the object of retaining trade in the old channels. In the matter of bank accommodation, credit, discounts, &c., those doing business with Great Britain have every possible advantage, such as American merchants have neither the power nor disposition to give. Nevertheless, there is a friendliness manifisted toward Americans on the part of Brazilians and the government which is full of encouragement, and the projectors of the of encouragement, and the projectors of the American steamship line believe that in the end all obstacles will be overcome.

Western Trade—An Encouraging Outlook.—The business outlook at the Northwest, notwithstanding the lateness of the west, notwithstanding the lateness of the season, continues quite encouraging. The Chicago Times' financial article epitomizes thus: The trade in lumber continues satisfactory, and the grain trade exhibits about fair animation, but of late the live stock markets have not been very lively, the dullness affecting cattle more largely than hogs. Wool is still sold freely to Western manufacturers at a steady set of prices, as there is appearently no surplus of Western manufacturers at a steady set of prices, as there is apparently no surplus of that staple in this country, but the hide trade has fallen off very noticeably, and the dealers in cheese report slow sales of that Western product. At the jobbing houses there is a good seasonable trade, and heavy dry goods, boots and shoes, hats, clothing, milliony, carretings hardware, oils draws. dry goods, boots and snoes, hats, ciotang, millinery, carpetings, hardware, oils, drugs, groceries, &c., are fully as active as a year ago at generally lower prices than then. Money is plently at the banks at tolerably easy rates of interest for borrowers in good standing, and the situation in banking circular reasonably. cles is probably as good as could reason be expected in the last half of October.

The following table shows the lake shipments of iron ore from the Marquette district since the opening of navigation the present year, together with the shipments for a corresponding period in 1877:

	187 457, 370, 30,
Total 864,070 Showing a decrease of 5141 gross tons	858,

### Special Notices.

TOR SALE.—ONE DOUBLE-HEADED LATHE, specially built for turning off the ends of iron columna. Heads are double geared, one head shifting. Swings 3f.; shears measure so ft. long by a in. wide. In prime order, and is a first-class tool. Lately used in Jackson's Excelsion from Works. Price, \$100. One single-head LATHE. Works. with a round leather belt. Swinss 4f.; total length, so is 60. Out of the continuous section of the continuous

# NOTICE.

Manufacturers of Hardware who are not represented in stallimore, and who are disposed to consign their leading goods, can make a satisfactory arrangement with the undersigned, who, having been established for 13 years' in the Hardware terministion Business, has facilities for introducing their goods to the wholesale and retail trade of Saltimore, Washington and other Southern Cities, Will make prompt cash return of sales. Best of references given.

Please andress JOHN R. ELSO, Jr.,

lest of reigness JOHN R. R. B. Merchant,
Hardware Commission Merchant,
Baltimore

### TO IRON, STEEL OR HARDWARE MANUFACTURERS.

The undersigned, having been thrown out of employment by the failure of the firm he has been connected with for several years, solicits the correspondence of any house in above line needing the services of a trustworthy man. Is a thorough bookkoeper and familiar with all details of office . Has also been on the road.
Address HENHY C IFFORD,
Office of The Iron Age, 83 Reade St., N. Y.

# Bookkeeper or Salesman.

A young man, age 26, for five years with one house, desires a position as bookkeeper or salesman. Is competent to take entire charge of books, Has had experience on the road. References unquestionable. Address.

Office of The Iron Age. 83 Reads St., N. Y.

WANTED, - BY A MACHINIST AND Draughtsman of 25 years' experience, familiar with most all kinds of machinery (had charge of shop for many years), a situation in the same line of busines or will act as agent of machinery of merit. Address P. O. Box 1049, New York City.

# FOR SALE.

# Job Lots Hardware.

Great inducements to the trade. Two hundred dozen Handled Chopping Axes at a low price.

A. W. WHEELER,

141 Lake St., Chicago, Ill.

### Special Notices.

# **JENNINGS'S**

### COMBINATION DISCOUNT TABLES.

(Published by the author.)

This Book contains 1500 tables for single and combination discounts, such as 17% %, 45%, 10&7% %, 15&5%, 36%10% 50, 33%25&3%, 35&75&2% 45, 45&5&10%, 60&70&5&10%, 60&70&5&10%, 60&70&5&10%, 60&70&5&10%, 60&70&70%, 75&15%, 60%10&70%, 75&15%, 60%10&70%, 75&15%, 60%10&70%, 75&15%, 60%10&70%, 75&15%, 60%10&70%, 75&15%, 60%10&70%, 75&15%, 60%10&70%, 75&10

OPINIONS.

Mr. S. H. Jennings: DEAR SIR.—Your Discount Tables are received, and I think are all you claim for them, and that they will be appreciated by the trade, I have had inquiries from customers for something of the kind, and shall be pleased hereafter to recommend your book. Your, very truly W. ROOT, with The Russell & Erwin Mfg Co.

Hot Springs, Ark., April 10, 1872.
We find the Tables correct, and are highly pleased with it. Every merchant should have one of them.
FONES BROS. & CO.,
Hardware Merchants.

ROCKFORD, ILL., May 20, 1876.
We use the Tables in making out invoices and find them accurate and useful, and would recommend them to parties who have many discounts to make and who wish to find the same quickly.

ROCKFORD BOLT WORKS.

We find them very useful, and a considerable aving in calculations. T. MCAVITY & SONS.

SHREVEFORT, LA., July 17, 1878. We find it saves much labor in verifying invoices. UTZ & SMITH.

New London, Conn., Oct. 5, 1878. We have used your Discount Tables during past the months and find them of great help to us in our

St. John, N. B., Nov. I, 1878. We find it saves much time and labor in marking goods and checking invoices. W. H. THORNE & CO.

It will be mailed, postpaid, to any address, on receipt of the price, \$3. Currency may be sent by mall at my risk. Address

S. H. JENNINGS,

Deep River, Conn

DISSOLUTION OF PARTNERSHIP.—Notice is hereby given that the Partnership heretofore existing between Call STRPLAN and JAMES EDWARD DENISON, under the name and style of the "American Fardware Company," has been this day DISSOLVED; and all parties indebted to the said company are hereby notified that receipts for payment must bear the signature of the undersigned, otherwise they will not be recognized.

JAMES E. DENISON.

9 William St., Melbourne, s9th August, 1878.

#### INTERNATIONAL EXHIBITION. MELBOURNE, AUSTRALIA.

American manufacturers and others who wish to be represented at the International Exhibition, to be held in Melbourne in 180, are respectfully requested to communicate with the undersigned, who is now making arrangements for personally attending to a limited number of exhibits. Terms, references and full particulars can be obtained on application to

9 William St., Melbourne, Australia.

### Dissolution of Partnership.

Notice is hereby given that the partnership heretofore existing between Carl Stephan and James Edward Denison, under the name and style of "American Hardware Company," has been this day dissolved, and all parties indebted to the said company are hereby notified that receipts for payment must bear the signature of the undersigned, otherwise they will not be recognized.

9 WILLIAM STREET, MELBOURNE, AUSTRALIA, Sept. 2, 1878.

Sept. 2, 1878.

To the Manufacturers of the United States:
In referring to the above notice the undersigned has the pleasure of announcing to his friends and the manufacturers of the United States, that he will continue the business as Manufacturers' Agent as heretofore ON HIS OWN ACCOUNT, for the introduction and sale of American Hardware and Merchandise, After eighteen months of colonial experience I am fully prepared to serve and advise manufacturers and others as to the read of the serve and advise manufacturers and others as to the read in the serve and advise manufacturers and others as to the read in the serve and advise manufacturers and others as to the read in the serve and advise manufacturers and others as to the read in the States, I can guarantee the best result in the introduction and sale of goods.

Thanking my friends for the confidence they have placed in me while connected with the above company, I shall endeavor to merit the same by close attention to the business interests of my patrons and strictly honorable dealing. I shall report to my friends in due time my reasons for dissolving the above firm, and as the liquidation of that concern DOES NOT interfere with my new departure, I beg leave to ask of my friends to continue the correspondence with me as heretofore, I shall guard their interests now in the hands of the late firm at all hazards.

I am, gentlemen, yours respectfully, William Street, Melbourne, Australia, Sept. 2, 1878.

# Australian Agency.

The undersigned manufacturers' agent wishes to form a connection with a FIRST-CLABS MOUSE in New York or Boston to enable him to concentrate his assorted orders offered to him in the general hardware line for execution. A large and safe trade can be done among the better class of wholesale and retail dealers throughout the colonies in American goods of all descriptions. I invite correspondence on the subject.

Address (CARL STEPHAN, Manufacturers' Agent, 9 William Street, MELBOURNE, AUSTRALIA.

### TO MANUFACTURERS.

A gentleman with long experience in the tron and Steel trade in the Northwest, desires an engagement with a manuscript Has handled a large trade. ment with a manufacturing firm as salesman.

Plankinton House,

Milirauhee, Wis. TO MANUFACTURERS & MERCHANTS.
The firm of E. Molas & Co., of Madrid, Spain, take charge of all orders for the purchase and sale of any article on commission. They will either purchase goods of Spanish manufacture to ship abroad, or sell in Spain any goods sent to them on consignment. They will accept the agency for any article of American manufacture upon conditions mutually agreeable. The firm having a large connection with dealers in Agricultural implements, this class of goods will have special attention. For references and further information, address or apply to

MR. A. ECHEVERRIA,
55 Broadway, New York,
and Importers,

### Special Notices.

### ARKANSAS STONE SAW MILLS,

For Manufacturing the Famous Arkansas, Washita, Ozark and Gulpha Oil and Water Whetstones.

Hot Springs, Nov. 1, 1878.
TO THE HARDWARE TRADE:

TO THE HARDWARE TRADE:

We beg leave to inform you that we are now erecting at Hot Springs, in the vicinity of the famous kiot Springs, or Novaculite Quartes of Arkansas, a Stone Saw Mill, containing all the latest improved machinery for stone sawing and polishing. We propose to keep constantly on hand or cut to order all the different varieties of Native Arkansas Whetstones, consisting of Arkansas, Washita, Ozark and Gulpha Stone of the very best quality ever before placed on the market. The facilities we possess for quarrying and sawing stone, our location and experience, combined with the fact of our controlling and working the quarries from which we obtain our stone, enable us to offer the Trade a strictly first-class article at prices that defy competition. We will be ready to execute orders by the 1st of December, 1878. We particularly invite a trial of our goods by all dealers and consumers, and hope to merit your continued patronage by our low prices, superior quality, and strict attention to business.

ARKANSAS STONE.

ARKANSAS STONE.

This is a very superior quality to what has been heretofore on the market, and its grit is much finer and takes hold better. We will manufacture of this stone, Hones, Points, Files, Slips and Wheels. WASHITA STONE,

Will be very carefully selected, and entirely free from quarts, seams, or other flaws or blemishes, and will be manufactured into various sizes, and suited to every variety of mechanical use.

OZARK STONE Has been comparatively unknown, and the quarry never fully developed until it came into our pos-session. Mechanics are now seeking it in prefer-ence to any other, and when generally known will undoubtedly become the favorite stone for their

GULPHA STONE is a superior quality of Sand Stone of very fine grit and excellent cutting qualities, and is especially recommended to Shoemakers, Har-

is a superior quality of Sand Stone of very and grit and excellent cutting qualities, and is especially recommended to Shoomakers, Harmess Makers, &c., &c.

In conclusion, we would say of the Arkansas and Washita Oil Stones, which are well known as having the sharpest and finest grit in the world, that when viewed through a strong microscope they present the appearance of a series of diamond pointed crystals very evenly and regularly placed together, points upward, and resembling nothing so much as a very fine rasp. These crystals are so minute to the touch and sight they appear like powder, and the stones seem perfectly smooth. While in use these stones are improved by being washed at times, as it frees the crystals of minute particles of steel that have been rubbed off during the process of sharpening tools.

We will supply from our quarries any of the above-named stones in any quantity, either in rough blocks or sawed slabs of any desired thickness or size, at reasonable prices.

Any inquiries or communications will be answered by addressing

JOHN ADAMSON, General Manager, Hot Springs, Ark. Or J. A. Polhamius, Gen'l Agent, New York

Russell & Erwin Manufacturing Co., 45 and 47 Chambers St., New York, and 425 Market St., Philadelphia, will act as our agents in those cities, and will constantly have on hand a full assortment of the various sizes.

One 9-inch Train Rolls,
One 16-inch Train Rolls,
Both with Housings.
Two Steam Hammers,
One Pair Shears,
One Pair Shears,
One Lot Steel Jugot Moulds,
Three Large Woodward Steam
Pumps,
Three Small Steam Pumps,
Two Hoisting Engines,
Three Stram Bollers,
One Lighthall Condenser,
One Surface Condenser,
One Surface Condenser,
Deck Fumps, Low Pressure Gauges,
Registering Gauges, &c.,

FOR SALE LOW BY

DANIEL W. RICHARDS & CO.. Dealers in

### Scrap Iron & Metals. 88 to 96 Mangin St., New York.

# SPECIAL NOTICE.

# Cheap Hardware.

Having determined to close out our entire stock of Hardware, as we intend quitting business, we are offering especial inducements regardless of cost. Call and see

### LANE & BOONE,

Importers and Jobbers of Hardware,

1227 Market St., Philadelphia.

### SUPERINTENDENT'S OFFICE, North and Sou'h Railroad of Ga.

COLUMBUS, GA., Oct. 20, 1872.

Parties having a few hundred tons "I' Rails (30 lbs. per yard), Fish Connection Bolts and Spikes, suitable for 30 lb. rail, and one or more Narrow-Gauge (3 feet) Locomotives, will please communicate with undersigned.

WM. REDD, JR., Supt.

# FLOWER PINS. w article of light wire, recently patented.

THE ENTIRE PATENT OFFERED FOR SALE. For further information address the inventor

J. H. PLUMMER, 1276 Pacific St., Brooklyn, N. Y.

# HARDWARE BUSINESS FOR SALE.

In one of the most thriving towns in Fennsylvania, about 75 miles from Philadelphia, a well selected stock of Hardware of about \$15,000, and doing a retail cash business of \$75,000, is offered for sale on low and easy terms. Wishing to retire from business reason for selling. Address

M. T. B., Office of The Iron Age, 220 S. 4th St., Phila., Pa

# Bissell & Welles.

### Wholesale Hardware Auctioneers,

83 Chambers and 65 Reade Sts., N. Y.

Sales held weekly for the trade. Consignments solicited. We refer to the leading Manufacturers

### Special Notices.

# **Special Announcement**

# SECOND-HAND AND NEW TOOLS

### FOR SALE.

The Tools in the following list are all of Wood, Lighte & Co.'s make, have been used, but are all in good order and will be sold low Five Engine Lathes, 15 in, swing 6 ft. bed. Six Engine Lathes, so in. swing 71/2 ft. bed. Five Engine Lathes, so in. swing, 8 ft. bed. One Engine Lathe, as in. swing 6 ft. bed. One Engine Lathe, az in. swing 16 ft. bed.

One Engine Lathe, 24 in. swing 12 ft. bed. One Engine Lathe, 28 in, swing 12 ft. bed. One Engine Lathe, 44 in. swing 14 ft. bed. Two Upright Drills, 27 in. swing, not geared.

One Upright Drill, 22 in. swing, not geared. One Upright Drill, 32 in. swing, back geared and elf feed.

One Planer, 24 in. x 23 in. x 4 ft. One Planer, 24 in. x 24 in. x 4 ft.

Two Planers, 32 in. x 30 in. x 8 ft. One Planer, 32 in. x 30 in. x 10 ft. One Planer, 37 in. x 37 in. x 10 ft.

One Planer, 42 in. x 36 in. x 15 ft. One Planer, 72 in. x 66 in. x 24 ft.

One Shaping Machine, 11 in. stroke One Shaping Machine, 12 in. stroke Four Bolt Cutters, various sizes. Two No. 2 Milling Machines.

One Horizontal Boring Lathe. The following are all new tools to be sold ery low, and are all Wood, Lighte & Co.'s make:

One Engine Lathe, 13 in. swing, 4 ft. bed. Two Engine Lathes, 13 in. swing, 5 ft. bed. One Engine Lathe, 23 in. swing, 6 ft. bed. Four Engine Lathes, 16 in. swing, 6 ft. bed. Two Engine Lathes, 16 in. swing, 8 ft. bed. One Engine Lathe, so in, swing, 8 ft. bed. One Engine Lathe, so in. swing, so ft. bed. One Engine Lathe, 28 in. swing, 14 ft. bed. Three Planers, 24 in. x 24 in. x 4 ft. Two Planers, 24 in. x 24 in. x 6 ft.

Two Upright Drills, 32 in. swing, back geared nd Self feed. One Planer, 36 in. x 36 in. x 12 ft. Two Shaping Machines 8 in. stroke. Three Shaping Machines, zz in. stroke.

One Shaping Machine, 14 in. stroke. One combined Shaping and Slotting Machine. Two No. 1 Bolt Cutters. Seven No. 2 Bolt Cutters.

One No. 3 Bolt Cutter. One No. z Bolt Cutter, with centers. Five No. 2 Bolt Cutters, with center.

One No. 1 Milling Machine.

### For full particulars apply to The Geo. Place Machinery Agency 121 Chambers and 103 Reads Sts.,

# NEW YORK.

# **FACTORY FOR SALE**

At Birmingham, Conn.,

Built in 1872 and formerly occupied by the Derby Silver Co.

Stone Mill, four stories, 100X40 ft.; wheels, 135-horse-power; land, 160X130 ft., or 160X315 ft. with additional buildings; power of Ousatonic River, never failing; 2½ hours from New York by rall. More than hait the purchase money can remain on permanent loan. Outside buildings can be rented on such terms as to leave the factory rent seminal. Must be sold cheap to close an estate.

W.M. B. WOOSTER,

# To Manufacturers of American Hardware.

Agentleman, resident of Australia and thoroughly acquainted with the hardware trade, would like to make arrangements with American manufacturers for the introduction and sale of their goods in the Australian Colonies, and to represent them at the coming exhibitions in Melbourne and Sidney in 1879. Samples necessary. References and security given. Address AUSTRALIA.

Care Geo. M. Lincoln, Esq., with Mesers. Geo. C. Richardson & Co., Boston, Mass

# To Steel Manufacturers.

An energetic young man with scientific training, who has had experience in the manufacture of Bessemer and Crucible Steel, in preference to remaining unemployed would be willing to take a subordinate position with the prospect of being employed as blower in Bessemer or as melter in Siemens-Martin steel works. Highest recommondation as to integrity, character and ability furnished. A correspondence, which shall be strictly confidential, respectfully solicited.

Address

33 West 35th St., New York.

### A Rare Chance.

For Sale—An established Hardware Business of 15 years' standing, in a Western city. Location unexcelled. Capital required, \$6000; prefer the cash, but instead will take part in live stock (cattle or sheep). Best of reasons for selling. For further particulars address

MARDWARE, Box 44,
Office of The Iron Age, 83 Reade St., N. Y

# Special Notices.

# The Sherman Process Co.

9 Pemberton Square, Boston, Mass., Issue Licenses to use the Process for the Manufacture of Iron and Steel

n the Bessemer Converter, Crucible, Siemens-Martin, Puddling, Blast and Cupola Furnaces. The use of this Frocess improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working. See page 17 of The Iron Age of Oct. 35th, 1377.

# Wanted-A Partner.

In a foundry and machine business, already well established. Locality splendid and healthy.

A practical man with means is wanted to join a 

# To Manufacturers and Jobbers of Hardware, Cutlery, &c.

Manufacturers and Jobbers, having surplus stocks or goods that from any cause are unsale-able upon which they wish to realize, or assignees who have stocks to dispose of, will find a cash purchaser by communicating with. W. M. CALDWELL,

Job and Auction Lots of Hardware, Cutlery, &c., 103 Chambers St., New York.

BUELL LAMBERSON, No. 97 Chambers Street. - New York.

These books may also be had at publishers' prices of
WM. BLAIR & CO., Chicago,
A. F. SHAPLEIGH & CO., St. Louis, and
R. W. BOOTH & CO., Cincinnati, O.

# Foreign Houses

importing American Goods, and desiring the services of a reliable Agent at a moderate comnission to attend to all their business in the United States, are invited to correspond (in English) with the undersigned.

Has had three years' experience as purchasing agent for Messrs. Wm. Marples & Sons, Sheffield and London, England.

S. H. JENNINGS, Deep River, Conn., U. S. A.

SPECIAL NOTICE. The undersigned offer their services as agents to

American Producers of Metals. They represent foreign brands of Zine, Russia Iron, Hoop Iron, Window Glass, Outlery and Guns. LOUIS WINDMULLER & ROELKER,

#### 20 Reade Street, N. Y. J. H. JENKS & CO., **Manufacturing Machinists**

180 Centre Street, New York,

are prepared, with a superior equipment of first-class tools and experienced mechanics, to contract for the designing and construction of pecial Tools, Dus. Jus-and Gavess for duplicating interchangeable parts of fine machinery or sheet metal goods. Contracts for manufacturing staple goods in quantity solicited.

# CALIFORNIAN AGENCY.

A San Francisco firm of File and Tool makers, having an agent constantly traveling among the consumers in the State and West Coast, is desirous of representing some first-class Eastern Houses in

# Address AGENCY, 248 Beale St., San Francisco, Cal.

Wanted,

A ROLLING MILL FOREMAN. He must be a good practical Heater, Roller and Roll Turner. None need apply without good references as to character.

Address,

B. H. S. W.,

Office of The Iron Age, 83 Reade St. N. Y.

# SECOND-HAND MACHINE TOOLS.

28 in. x50 in. Corliss Engine; no in. x44 in. Harris Corliss, with Vertical Boiler Heaster and Pump, all new; 14 in. x50 in. Whitehill & Smith Adj. Cut-off Engine; 16 in. x44 in. Fishkill Landing Engine; one 45 h. p. Hor. Tub. Boiler. Engine Lathes as follows: 20 in. x21 ft., 24 in. x24 ft. Pond, nearly new, late pattern; four 16 is. x5 ft. Ames Mig. Co., nearly new; one 31 in. x5 ft., Hratt & Whitney Taper Attach. Lincon 45-in. Gear Cutter. One 72 in. x4 ft. P. & W. Lathe; one 20 in. x7 ft. Whitehold Corline St. St. St. St. Patter. One 25 in. x7 ft. Whitehold Corline St. St. St. St. Patter. One 50 in. x7 ft.

# E. P. BULLARD, 14 Dey St., New York. Second - Hand Machinery For Sale Low. SEND FOR LIST.

Engine Lathe, built by Seth Wilmarth, 82 in. swing, 23 ft. bed live spindle hollow, face plate both ends, one at front 6 ft. 4 in. diameter, one at rear 7 ft. 1½ in. diameter, two boring bars traversed by tail spindle, both arranged for spilning key ways; one of these bars is designed for work on rear face plate and has yoke to support outer end; on either face plate work may be bored, turned and spilned without removing the fastenings. At rear face plate an adjustable bed it feet long, carrying an adjustable tool rest, the latter having 1 ft. 6 in. traverse, arranged to sit at any angle and in any position on above bed. Tail spindle is 5½ in. square, carriage is fed by a corew the full length of bed, cross feed automatic, 6 grades of feed to operate either, 10 grades of speed for live spindle, driving movement goars direct to trent face plate, complete with counter-shaft for driving, splining and reading. One large as addience center rest.

Planer, built by W. Collier & Co., Salford, Eng., planes 54 in. wide, 48 in. high, 18 ft. long, automatic cross, vertical and angular feed, platen driven by gearing into step rack, return motion about 3 to 1; has third upright with vertical tool silder automatic feed, to plane work that will not pass between the regular uprights. This silder has a vertical movement of 5 ft., 4 in. Counter-shaft.

HOLYOKE MACHINE CO.,

# Trade Report.

Office of The Iron Age, Wednesday Evening, Nov. 13, 1878.

The past week has been a dull one in financial circles, and the events of general interest to note are few. In London the discount rate of the Bank of England has declined to 434 % with an increased reserve. The local money market continues easy at 31/2 @ 5%.

Matters connected with the resumption of specie payments have been the chief topic of interest during the week in financial circles. The results of the late elections have settled the difficulty between the New York Clearing House and the Treasury in respect to coin redemption on and after January 1. The leading bankers in the Clearing House have until recently doubted successful resumption. They insisted as a condition precedent that the greenbacks should be wholly done away with to make the act of 1875 practicable. They continued in this opinion until last summer, after Congress had forbidden the cancellation of greenbacks, even before the minimum of \$300,000,000 had been reached. Finding that this point would have to be waived, and that the Treasury continued to make steady progress to the par of gold coin with greenbacks, they cordially united with the other bankers of the country in convention at Saratoga to declare their support of and confidence in the government to maintain at par in gold coin the newly prescribed \$346,000,000 greenbacks, provided the silver dollar could be got out of the way as an uncertain factor in resumption, and the money idea should not be enby the people in the fall elecdorsed This last apprehension being removed it only remained for the Clearing House Committee that went to Washington last week to have an understanding with the Secretary of the Treasury in relation to the use of the new silver coinage. This, it is now known, was arrived at after a brief and pleasant conference, and it is now certain that after January I the banks of this city, with the prospect that the practice will become general throughout the country, will have but a single standard for business, and that all exceptional or special deposits and other transactions and clearances growing out of such deposits will be done away with. The standard will be exclusively gold coin, and receipts in and payments out of bank will be made common in greenbacks and National Bank notes convertible into gold coin or in the coin itself, to suit the convenience of dealers. The silver dollar will be made a subsidiary currency exclusively, and the small greenbacks of the Treasury withdrawn, as the small notes of the banks are compelled by law to be done away with after resumption. The present gold notes or certificates representing special deposits of gold in the Treasury will be paid off at once, and their further use done away with. For the convenience of bankers, and to facilitate large transactions in exchange, foreign as well as domestic, and intersettlements or clearings between the banks, the Treasury is now preparing, and will have ready for use before the New Year, greenback notes of the denomination of \$5000 and \$10,000, which, being convertible at the New York Sub-Treasury into gold coin when wanted for export, will afford all the convenience of the present gold certificates of large denomination. If the new paper, representing no special deposit of gold coin, and made common in the matter of redemption or conversion with other greenback paper, be not acceptable to all the holders or owners of gold coin, they will have to do their own hoarding of the coin itself. Both the Treasury and the banks must refuse it on special deposit after the New Year. But the objecolding \$5000 or \$10,000 n no doubt be rare and exceptional, resting, to look for much activity in trade, we are as the objection would do, upon the remote pleased to notice that with the settlement contingency of another suspension, which of vexed political questions confidence is in consideration would be balanced by the loss a great measure restored, and already the

gold coin itself In view of the near approach of resumption, and the limited demand for cash gold those sections whose trade was cut off durby our merchants, the market for that com- ing the prevalence of yellow fever in the modity has ceased to have any importance. All quotations of gold are 1001/8.

desirable investment securities. We give ciently numerous to create a good deal of below the closing quotations of government bonds.

In the stock market speculative shares have been generally strong, but irregular. January next. The principal dealings have been in Lake Shore, Western Union, Northwestern, Delaware, Lackawanna and Western and Union the market than was the case a week ago. Pacific. We give below the closing quotations of active shares.

The bank return shows an increase of \$2,341,950 in surplus reserve, which now stands at \$12,844,200, against \$8,878,575 at Spain, announce in their advertisement, this time last year and \$8,696,375 at the corresponding period in 1876. The loans show a decrease this week of \$4,287,600; the orders sent to their care for the purspecie is increased \$2,229,100; the legal tenders are decreased \$1,063,600; the deposits are down \$4,705,800 and the circulation is ish manufacture to ship abroad or to sell in

totals of this week, compared with that of goods of American manufacture. last week :

Legal t'nd'rs Tot, reserve, Deposits Reserve re-	40,219,000 64,363,100 215,413,400	39,155,400 65,528,600 210,737,600	Inc.	1,00	3,600 5,500 5,800
quired Surplus Circulation.	53,860,850 20,502,250 29,904,400	53,684,400 12,844,200 19,905,400	Inc.		1,950 1,100
The fore	iom tondo		-4-	f.am	4300

The foreign trade movements for the week are shown in the following tables:

		IMPOI	ITS.	
Fo	r week er	ded Nov.	9:	
Total Prev.	for week. reported.	#3,768,378 #45,357,316	1877. \$4,772,341 276,568,516	1878. \$5,079,836 243,787,545
			\$281,340,857 orts of gen	

	Quantity.	Value.
Brass goods		83, 111
Bronzes		3,933
Outlery	75	15,432
Juns	52	10,580
Hardware	16	2,811
ron, pig, tons		1,410
ron, sheet, tons	16	1,472
ron cotton ties	I,000	870
ron, other, tons	461	17,500
Metal goods		82,462
Nails	3	301
Needles		6,201
Old metal		2,721
Platina		15,326
Per. caps		5, 160
Saddlery		1,450
Steel	604	8,62
Silverware	4	I, IO
lin, bas	31,516	139,052
Cin, 2090 slabs		9,671
Wire	549	3.416
Zinc		546

EXPORTS, EXCLUSIVE OF SPECIE. For week ended Nov. 12: 1876. For the week... \$5,431,408 \$7,465,449 \$6,391,896 Prev. reported... 225,049,827 242,383,660 294,625,474

Since Jan. 1....\$230,481,235 \$249,849,109 \$301,017,370 EXPORTS OF SPECIE,

Total	for th	he v	ree	k				*			 	*	,		×	*		\$253,93
Previo	ously	reg	or	te	a					. 6		 	 				٠.	11,131,93
Total	since	Ja	n.	Χ,	E	8	y8	3.			 							\$11,385,86
Same	time	in	187	7.					 		 			0				24,121,48
Same	time	in	187	6			,		 ۰									41,815,75
Same	time	in	187	15			0											67,994,34
Same	time	in	187	14														44,363,19
Same	time	in	187	13														45,090,48
Same	time	in	x8:	13														63,883,45

	Bid.	Asked.
U. S. Currency 6's 1	2136	122
U. S. 6's 1881 registered	08 7/8	100
U. S. 6's 1881 coupon	083%	100
U. S. 6's 1865 new reg	0338	. 1033/2
U. S. 6's 1865 cou	0338	103%
U. S. 6's 1867 reg	061/6	1065/B
U. S. 6's 1867 cou	063%	1063/2
U. S. 6's 1868 reg	08	****
U. S. 6's 1868 cou		****
U. S. 10-40 reg	10738	10756
U. S. 10-40 coupon		10756
U. S. 5's 1881 registeredt		105%
U. S. 5'8 1881 coupon	105%	105%
U. S. 41/2's 1891 registered	035%	1033/4
U. S. 41/4 's 1891 coupon		10434
U. S. 4'8 1907 registered 1	1001/8	100%
U. S. 4's 1907 coupons	1001/6	10034

The following were the closing quotations

The following were the closin	R dao	emons
of active shares:		
	Bid.	Asked.
Atlantic and Pacific Telegraph	90	2036
Chicago and Northwest		4356
Pref	7534	75%
Chicago, Rock Island and Pacific		118
Chicago, Bur. and Quincy	22026	111
Col., Chicago and Ind. Central	-16	536
Clev., Col., Cin. and Ind	3134	
Cleveland and Pittsburgh	8134	8*3/8
Chicago and Alton	80%	81½
" Pref	103 1/2	
		* * * *
Canton Delaware, Lack, and Western	20	25
Delaware and Hudson Canal		53
Express—Adams		46%
" American		107
44 United States	4079	49
Walls Farms & Co.	47	48
wens, rargo & co		99%
Erie	- 9	1958
Frei	32	3275
Hannibal and St. Joseph		16%
	4×	411/2
Illinois Central		****
Kansas Pacific.		1034
Kansas and Texas		434
Take Shore		683%
Michigan Central		69%
Morris and Essex	831/2	8334
Milwaukee and St. Paul	3236	321/2
rret	6834	683%
New York Central		112
New Jersey Central		31
Ohio and Mississippi		756
Pacific Mail		16%
Panama Pittsburgh and Fort Wayne	122	125
Pittsburgh and Fort Wayne	TOO	
Quicksilver	936	2.2
" " Pref	31	34
St. Louis and Iron Mountain	1334	14
St. Louis Kansas City Northern		534
ii ii prof	223/	22%
Toledo, Wabash & Western Union Pacific Western Union Telegraph	2336	2356
Union Pacific	673%	6734
Western Union Telegraph	0636	965%
* Assessment mold	3-18	3-10

# GENERAL HARDWARE.

hough the season is too far adv of interest and anxious private care of the trade here feels its effect in a healthy demand for seasonable goods. In our last issue we mentioned the renewal of the demand from South; this week this demand is more generally distributed throughout the trade, and Government bonds are strong, as are all although orders are light they are suffifavorable comment. The fluctuations in values are few, and it is not likely that many important changes will be announced before

> The demand for Nails continues fairly active for small lots, with a firmer tone to We quote as before, 1od. to 6od., \$2.15, net, in small lots; for orders of 100 kegs and over a slight concession could be obtained.

The firm of E. Molas & Co., Madrid. which will be found among "Special Notices," that they will take charge of all chase and sale of goods on commission. They offer both to purchase goods of Span-Spain any goods sent to them on consign-The following is an analysis of the bank ment, or they will accept the agency for propose to give special attention to the introduction in that country of Agricultural Implements.

The Russell & Erwin Mfg. Co. have is sued the following revised price list of Fire Irons, the regular discount from which is 50

per cent: RUSSELL & ERWIN MFG. Co., | NEW YORK, Oct. 23, 1878.

	RE	VISED LIS				
	_				ckel-Plat	
	Per	S.T.&P. Per	Per	Per	Per	Pe
No.	pair.	set.	doz.	pair.	_ met.	do
10	\$12.00	\$14.00	\$24.00		\$22.75	***
11	14.90	16,00	21.60		25.00	***
25	3.78	2.15	4-44	4.50	5.75	15.0
26	2.25	2.70	5.40	7.00	8.80	21.0
30	2.25	2.75	6.00	5-45	7.00	18.6
30	% 2.66	3.20	6.48	5-75	7.20	17.4
31	2.45	3.00	6.60	6.05	7.70	19.8
31	2.90	3.60	8.40	7-95	9.90	22.2
32	2.90	3.50	7.20	7.10	8.90	28.6
33	3.42	4-10	8.16	8.48	10.70	26.6
34	4.66	5-55	10.68	11.70	14.60	34.8
35	5.10	6, 80	12.00	12.75	15.75	36.0
36	5.75	6.85	13.20	13.87	17.25	40.5
40	3-35	4.15	9.60			
41	3.45	4.25	9.60	****	****	***
42	3.60	4-45	10.20			
360	7.50	9.25	21.00			***
460	7.55	9.63	25.20		18.00	***
500	8.00	9.75	21.00			
SOI	8.90	10.65	91,00	* * * *	****	***
503	10.65	12.90	27.00	****	****	* * *
503	11.55	13.80	27.00		****	***
530	12.45	14.70	27.00	****	****	
550	16.00	18.25	27.00		****	***
560	16.00	18.25	27.00	****		
600	37.75	31.25	42.00	****		* * *
700	8.00	9-75	91.00	****		***
703	11.55	13.80	97.00			***
730	12.45	14.70	27.00	****	****	***
740	16,00	18.25	27.00	****	X.8.8.8	***
-		_				

Marx Brothers, proprietors of Young's Patent Folding Scissors, have issued the following circular. An illustration of this very convenient Pocket Scissors will be found in their advertisement on the 11th

GENTLEMEN: We are pleased to inform you that we have made arrangements which you that we have made arrangements which enable us to supply the great demand for Young's Patent Folding Scissors at the following greatly reduced prices, and to facilitate ordering we name the following styles:

styles:

No. 7, large size, pointed blades; No. 2, large size, half pointed; No. 3, large size, blunt; \$12 per doz; former price, \$18.

No. 4, small size, pointed with nail files; No. 5, small size, half pointed; No. 6, small size, blunt; No. 7, small size, embroidery; \$9 per doz.; former price, \$12.

No. 8, buttomhole; No. 9, pruning and nail scisors; No. 70, ince point or sewing machine; \$12 per doz.; former price, \$15.

We allow a trade discount of 25 per cent. No discount on any order less than one dozen. The material used in the manufacture of these goods is the very best. All are nickel plated and furnished with a neat morocco case. These prices being as low as those for plain scissors of the same quality, will place them within the reach of all.

Respectfully,
MARX BROS., Proprietors,
430 Broadway, N. Y.

varieties of Native Arkansas Whetstones, consisting of Arkansas, Washita, Ozark and Gulpha Stone. This new enterprise will be in full operation, it is expected, by the 1st proximo. The Russell & Erwin Mfg. Co. have been appointed Agents for New York and Philadelphia.

John R. Kelso, Jr., Hardware Commission Merchant, Baltimore, Md., in his advertisement on the opposite page invites consignments of leading goods from manufacturers not already represented in Baltimore. Fur-ther particulars will be found in the advertisement referred to.

Manufacturers of Horse Nails inform us that there is a firmer feeling in the trade. owing to the prospect of an advance in prices in January next, if not sooner. By a recent decision of the United States Treasurer all the high grades of Norway Iron are compelled to pay Steel duty, equal to an advance of about \$30 per ton. This of itself is an advance of 11/2 cents per pound in the cost of manufacture.

### IRON.

American Pig.-This market continues in the same dull and lifeless condition so often noticed of late, and no transactions of any magnitude have transpired during the We quote nominally: Foundry No. 1, \$16.50 @ \$17.50; Foundry No. 2, \$15.50 @ \$16.50, and Gray Forge, \$14.50 @ \$15.50. In our Philadelphia report will be found notice of the suspension to-day of one of the prominent Lehigh companies.

Scotch Pig.-We hear of the sale of 200 tons Glengarnock to arrive, the terms of which have not transpired; also 50 tons Eglinton, from store, at a shade over \$20. The arrivals during the week are 200 tons, brand not named. We quote, on a very dull market, Eglinton, \$21; Coltness. \$22,50.

Rails,-For Steel Rails there continues to be considerable inquiry, and business in a quiet way at prices varying according to the place of delivery. A fair quotation for large lots at tidewater is \$43 per ton, although for small parcels a higher figure would be named. We quote Steel at mill, \$41 @ \$44. In Iron Rails no business is reported, and we continue to quote the same at mill, \$32 @ \$36, according to quality. section, terms, &c.

Old Rails.-In the absence of business we quote \$18.50 @ \$19, which is the nominal

Scrap.-We continue to quote (nominally) No. 1 Wrought, from yard, \$20 @ \$21. No sales of any magnitude are reported.

METALS.

Copper. — Sales during the week have not exceeded 300,000 pounds Lake Superior at 15%  $\phi$  % 16 $\phi$ , the market closing at 15%  $\phi$ . We quote Baltimore nominally 15%  $\phi$ . at 15%% (6) 10%, the market closing at 15%%. So near the close of navigation holders are very firm, and there is more tone to the market. The quotations at London have undergone no further change. Mail advices from there express confidence as regards the immediate future. The quantity on the way from Australia to England is quite limtited, nor is it expected that shipments from Chili will be large as long as prices in Europe do not advance much beyond their present moderate level. For the time being cable communication with the West Corst. cable communication with the West Corsis interrupted. English Prices Current, dated Oct. 31, quote Tough Ingots, £64; Best Selected, £65, and Sheets, £71. The combination prices for Manufactured Copper are unchanged and the demand is only moderate. The market for Yellow Sheathing Metal is dull and prices rather nominal. We quote: New Sheathing Copper, 26¢; Braziers, 28¢, and Bolts, 28¢; American Yellow Sheathing Metal, 13½¢; Yellow Metal Bolts, 25¢, and English Yellow Sheathing Metal, 12½¢ @ 12¾, currency, in bendurance of the second statement of the second statement of the second se Tin.-Since our last report the market

has been excited and higher, 16½¢ having been paid for Straits Tin yesterday, showing an advance of fully 3¢ from the lowes point. The London market has improved point. The London market has improved with the greatest steadiness, the latest cable dispatch reporting £64 for Straits, or £11 higher within a month. Singapore simulations of the company of the compan £11 higher within a month. Singapore simultaneously cables \$18.50. The October shipments from Australia to England have been 750 tons. The stock here is quite small, and the arrival of only 1000 slabs Straits Tin may be looked forward to this month. We quote at the close, large lines, Straits, 16½¢; English Refined, 15¾¢ @ 16¢; ditto Common, 15½¢ @ 15¾¢, and Banca, 18¢@ 19¢. We have received the following by mail from England, bearing date Oct. 31: "The past three days have been characterized by great activity among selcharacterized by great activity among sellers; prices have advanced some £6 per ton lers; prices have advanced some £6 per ton. Buyers, rightly or wrongly, see no reason for this, and transactions accordingly are few and retail in character. Values to-day are L and F Ingots, £65; Refined, £66, and Straits, £61." Tin Plates.—The same circular just alluded to, under Block Tin, contains the following with reference to Tin Plates: "As 'close' time approaches prices are getting somewhat firmer, and now to a Plates: "As 'close' time approaches prices are getting somewhat firmer, and now to a certain extent buyers are responding, advances of 3d. per box having this week been paid for Coke Tins. For Charcoal Tins more is asked, but little business is doing, and Ternes are substantially in the same position." A fair trade has been transacted in this city at generally firm prices, and the outlook, if anything, is encouraging, since it is universally conceded that con-and perfected methods of manufacture hav brought about this wonderful increase which, we feel convinced, will make itself felt very soon. We quote ordinary brands, large lots, per box as follows: Charcoal Bright, \$5.75 @ \$6; ditto Ternes, \$5.25 @ \$5.37½; Coke Tin, \$4.95, and ditto Ternes, \$5.37½; Coke \$4.75@ \$4.80.

Lead.—Holders have got it pretty much all their own way, and, having a firm control of the market, they are making hay while the sun shines, being favored, more over, by a tolerably fair demand, consider ing the season. Thus some 200 tons of Common Domestic Lead have been placed during the week at gradually advancing figures. Beginning at 3.75¢, they have finally got 3.85¢, and now hold at 3.90¢, while Fine Lead commands 3.87½¢@ 3.90¢. In England there was no change, and on Oct. 31 the market closed sluggishly, English Fig at 1.50 cm. Shortest \$6 cm. and \$7.50 cm. £15. 10/; Sheets at £15. 15/, and Spanish Pi at £15. 7/6. The Colwell Lead Company at £15. 7/6. The Colwell Lead Company, No. 63 Centre street, New York, quotes manufactured lead, &c., as follows: Lead Pipe, 4¾¢; Sheet Lead, 5½¢; Block-Tin Pipe, 40¢; Tin-Lined Lead Pipe, 12¢; Chilled Shot, 8¢; Drop Shot, 6½¢; Bluck Shot, 7½¢; Bar Lead, stamped, 4¾¢, and do, molded, 4¾¢, less the usual discount to dealers. They allow for old lead in trade, 3¼¢, 3½ fb. for old lead in trade, 34¢ P b.

Spelter and Zinc.-Common Domestic steady, at 4 quoted 8 1/4 ¢
In Europe Spelter has remained very quiet, but steady, at  $4\% \neq 0.5 \neq$ . Refined may be quoted  $8\% \neq 0.8\% \neq$ , and Silesian,  $5\% \neq$ . In Europe little transpires, owing to the season. Sheet Zinc.—The market is quiet and nominal. We quote: Domestic, quiet and nominal. 61/8¢ @ 61/2¢; and Mosselman, 73/8¢ @ 75/8¢.

Nickel.—There is no special feature. The market is moderately active at firm prices, the range remaining \$1.10 @ \$1.25 Antimony—Has been quiet at 12¢ @ 12½¢. London reports no change.

OLD METALS, PAPER STOCK, &c.

In the Old Metal market Lead, Copper and Stove Plate are in good request, other stocks are without animation. have no special feature of interest to re port in the Rag and Paper Stock market during the past week. There is activity in some departments, but on the whole the

The purchasing prices offered by dealers for Old Metals are as follows:

market is very dull.

Copper, heavy	per 10. \$0.13	0	
Copper Bottoms	10 10%	@	**
Yellow Metal	or. of s	0	
Brass, heavy		0	* *
Brass, light	.07	@	
Composition, heavy	-1179		**
Lead, solid	.093%		* *
Tea Lead		0	
Zinc	.0974		
Pewter, No. 1	.09	0	
Pewter, No. 2	.07	0	
Wrought Iron		9	
Light do	9.00	0	
Stove Plate	9.00	0	
Machinery do	11.00	0	0
Grate Bars	3.50	0	

The prices current for Rags, &c., are as

	Canvas, Linen	per D.	3 C. @ 3%C
	Cotton, No. 1	61	31/2 C. @
	11 No. 2	80	1560. @
	White, No. 1	0.0	31/4 C. @ 31/4 C
	NO, 2	0.0	2 C. @
	Seconds	WITE.	11/1C. @
ı	Mixed, Woolen	0.0	2 C. @ 3 C
ı	Soft, do	0.0	6%c. @ 7 C
ı	Gunny bagging	66	3 C. @
ı	Jute butts	8.0	2%c. @
١	Kentucky bagging	0.5	3 C. @
ı	BOOK Stock	0.0	21/6C. @
ı	Newspaper Stock	0.0	1 C. @ 1%C.
ı	Waste Paper and Scraps	6.6	34c. @
1	Kentucky Bale Rope	6.6	4 C. @
1	Oakum Junk, No. x	6.6	4%C. @ 5 C.
١	" No. #	6.6	3 C. @
1	Tarred Shaking	8.0	1 C. @ 1%C.
1	Grass Rope	0.6	@ 2%C.
1			

#### EXPORTS

Of Hardware, Iron, Machinery, Metals,

r	Of Haraware, Iron,	Machinery, Metals,
y	&c., from the Port	of New York, for the
-	Week ending Nov. 1	2. 1878:
;	Danish West Indies.	Africa.
n	Quan. Value.	Br'ss k't's, cks 2 \$314
V	Hdw., cs 31 1888 Cartridges, cs 3 66	
-	Nails, kegs 24 o8	Iron sare I 200
-	AE, 100D., DEEP 1 22	Maw., Co 4 45
t	ALCOUNTERS, Cas. 1 175	Mexico.
g	Hamburg.	Mach'y, cs 13 770
2	Copper, cks 90 19,100	Ag. 1mp, pkgs. 11 208
t	Mf. iron, pkgs. 8 198 Ag. imp., pkgs 13 100	
1	Hdw., Cs 144 1,000	Huw., Cs 20 700
t	Hdw., cs 144 1,900 Pl'd ware, cs 3 700 Mach'y, cs 20 2,861	Pumps, pkgs. 2 30
r	Mach'y, cs 20 2,861 Pumps, pkgs 2 89	
-		Brazii.
r	Dutch West Indies.	
0	Mf. iron, pkgs. 14 148	Mf. iron, pkgs 92 1,792 Irons, cs 74 462
е	Ag. imp., pkgs 8 25 Nails, bxs 11 46	Brass, bags too or
8	Barrows 20 68	
8	Per. caps, cs 1 50	Ag. imp., pkgs 24 573
١,	Hdw., cs 34 368 Cartridges, cs. 4 348	Wire, pkgs 23 440
a)	Pl'd ware, cs z 258	Devoluce, DAS. 10 1,193
d	Bremen.	
-		Tacks, cs. 10 var
e	Brass go'ds, es o 225	Belting, bales. 2 186
n	Wire, cs 3 275 Mach'y, cs 40 6,776	Hdw., cs 436 0.652
l-	Mach y, cs 40 0,770	Hdw., cs 436 9.652 Nails, kegs 97 816
1.	Ag. imp., pkgs 13 625 Pistols, cs x 158	Cartinges, cs., 4 84
n	Rotterdam.	Brass g'ds, cs. 1 100
e		Reflect'rs. cs. a one
y	Hdw., cs 168 2,278 Mf. iron, pkgs 17 355	Mach'y., pkgs 37 1,111
d	Pumps, pkgs. 28 1,505	C'ge mtls., pge 1 50
r-	Ag. imp., pkgs 5 214 Pl'd ware, cs 1 230	344 1
1-		Mf. iron, pkgs 3 51 Nails, kegs 21 6:
n	London.	Shor, bags vo vo
8	Ag. imp., pkgs 45 1,274 Hdw., cs 109 2,291	WHEELB 4 3/
a	Mach'y, cs 87 7,366	Powder the
I-	Oil tanks, pgs 25 375	
n		arayes.
e	Belting, cs 3 1,599 Pumps, pkgs. 3 60	Ag. imp., pkge r of
d	Spelter, slabs. 66 135	
i-	Liverpool.	Rines, case r &
3-	Mach'y., cs 19 4,856	Nation known 5 50
3,		мань, жедв 37 90
5,	Brit. ware, cs. 14 4991 Brit. ware, cs. 11,048 C'ge m'lls, pgs. 34 1,038 Mach'y, case. 119 Guns, cs. 3 450 Wringers, cs. 20 600 Ag, imp., pkgs 11 68, Tinware, cs. 4 113 Metal g'ds, cs. 10 1,781	British Guiana.
1-	Mach'y, case 1 180	Tinware, pkgs 4 66 C'ge mtls., pgs 9 86
g	Guns, cs 3 45	C'ge mtls., pgs 9 86 Hdw., pkgs 12 566
	Ag. imp., pkgs 11 689	Hdw., pkgs 12 566 Nails, kegs 15 43
1,	Tinware, cs 4 115	Havre.
g	Metal g'ds, cs. 10 1,781	Hdw., cs 7 310
t, s.	Bristol.	Machin
θ,	Mf. iron, pkgs. 1 28	Cuba.
g	Zinc ore, bags 6 50	Chatlern in
r	Glasgow.	Iron, pkgs 12
8,	Ag. imp., pkgs 18 1,104	Iron, pkgs 12 15 Mach'y, pkgs. 586 34,499 G'dstones
n	Deiting, case 1 720	570
al		Cit. 6 cit, page, 143 1,19
е	Copper. box 1 72	Meters, pkgs. 7 1.320
3.	British West Indies.	Boiler tubes.
lÉ	Nails, kegs 31 195	Hdw., pkgs 129 3,348
в,		Pumps, pkge. 5 44
sĺ.	Tinware, cs 3 148	Ag. imp., pags 22 251
a a	Mf. iron, pkgs. 51 249	
8,	Iron, pkgs 25 37 Plt'd w're, cs. 1 195	Nails, kegs 200 547 Car fix'es pgs. 34 284
	Plt'd w're, cs. 1 195	Car fix'es pgs. 14 284 R.R.m's., pgs. 5202 30,164
h	New Zealand.	United States of Co.
1-	Hdw., es 767 15,503	United States of Co. lombia.
y	Mf. iron, pkgs 137 520	Mf. iron, pkgs 40 681
9-	Willigers, Co II 327	Hdw., cs 186 4,104
r-	Pumps, pkgs. 38 2,686 Ag. imp., pkgs 203 5,416	Mach'y, cs 356 13,36;
1-		Povolvovo os
g	British North Amer-	Brass g'ds, cs. 2 124
8.	ican Colonies.	Carbines, cs 19 551
ot	Tanks 7 99	St'ped w'e. ca 9
10	Mf. iron, pkgs. 276 233 Mach'y, cs 8 105	Cruns, CS 10 045
z-		Ag. imp., pkgs 19 212
I	Hdw., cs 24 192 Coal, tons 662 2,581	Cutlory on or
t	Hull.	Zinc, cks 2 51
		Iron pkgs ree age
g /,	Mach'y, es 6 930 Hdw., es 34 1,382	1 Tinware, CH 3 933
1-	Mf. iron, pkgs 16 900	Shot, bxs 6 78
		,

### IMPORTS

Of Hardware, Iron, Steel and Metals into the Port of New York, for the Week ending Nov. 12, 1878:

1 Order

Steel.

Prosser Thos. & Sor

Bundles, 91 Bars, 25 Cases, 3

Cases, 3 Wolffe R. H. & Co. Wire, pkgs., 165

Metals.

Boker Hermann & Co. Cutlery, cs., 10
Ely & Wray,
Scales, cks., 1
Folsom H. & D.
Mdse., pkgs., 5 Mdse., pkgs., 5 Krause & Hahns, Whetstown Whetstones, pkgs. 6
Livingston W. & F.
Grindstones, our McCoy & Co.
Nails, bags, 10 McCoy & Co.
Nails, bags, 19
Ovington Bros.
Cases., 2
Remington E. & Sons,
Mdse., pkgs., 2
Schoverling & Daly, Gun wads. cs., 4 Mdse., pkgs., 6 Ward Asline, Mdse., pkgs., 5 Wiebusch & Hilger Hdw.

Hardware.

Wire, page, Order, Rods, bdls., 311 Bundles, 268 Cases, 10 Casks, 4 Tyres, 24 Bars, 5 Co. Curlery, hdw. and anvils, pkgs., 260 Young J. Brooks, Arms, cs., 60 Arms, cs., to Order, Packages, 13 Files, cks., 3 Spades bdls., 6 Nails, cks., 2 Wire Rope, coils, 16 Cotton ties, bdls. 598:

Francklyn C. H. Bars, 1386
Bundles, 8
nderson Bros.
Pig, tons, 200
ng W. Bailey & Co. Lang W. Bailey
Bars, 139
Lundberg Gus.
Bars, 1082
Marvel W. D.

Ore, tons, 150 Phelps, Dodge & Co. Sheet, bdis., 348 Wilson J. W. & Co. Boxes. 1

Metats.

Bruce & Cook,
Tin plates, bxs., 2076

Byrne Jos. & Co.
Tin plates, bxs., 600

Cort N. L. & Co.
Tin plates, bxs., 953

Francklyn, C. H.
Tin plates, bxs., 140

Hopkins E. T.
Tin plates, bxs., 450

Lead, bars, 1051

Naylor & Co.
Tin plates, bxs., 496s

Pratt C. & Co.
Tin plates, bxs., 742 Tin plates, bxs., 74\*
Phelps, Dodge & Co.
Tin plates, bxs, 8604
Black taggers, bxs.,

Tin ingots, 200 Shepard Sidney & Co. Tin plates, brs., 370 Tin plates, bxs., \$107
Tin plates, bxs., \$107
Tin ingots, 400
Tin slabs, 120
Black taggers, 150

#### COAL.

Since our last issue the Coal trade has not changed in any perceptible degree. The demand, especially for the hard white ash Coals, has been active, and there have been slight delays in shipping. The softer Coals, however, can be obtained at once on account no only of a greater supply, but a smaller demand. The feature of the week has been the advance in freights. At present rates are somewhat lower than the highest figures. are somewhat lower than the highest figures.
At the present time we quote Boston from
\$1.50 to \$1.55. Higher figures have been
reported, but could not be maintained. Even
these figures are above Philadelphia rates,
at this considered. This is convicuent to all things considered. This is equivalent to an advance of 40¢ per ton on Eastern Coal, and it has, to a certain extent, checked the demand, and so worked its own remedy.

#### PHILADELPHIA.

[By Telegraph.]

Nov. 12, 1828. A Lehigh iron company, whose financial condition has been a subject of comment for some time, suspended payment to-day. This failure it is thought will have a beneficial effect on the market rather than otherwise, as the necessities of the company have long been such as to compel them to realize regardless of cost; hence the ruinous com-petition so often referred to of late in this

Office of The Iron Age, 220 South Fourth St. PHILADELPHIA, Nov. 12, 1878.

The past week has developed a cheerful feeling in business circles, and although no important expansion of trade is looked for at this season, the future is regarded with much confidence. The result of the election appears to give general satisfaction, and with the financial question virtually settled, it is believed that values of all commodities rest upon a solid foundation. The condition of business generally is undoubtedly improv-ing, and it is believed that a larger propor-tion of the population of Philadelphia and surrounding cities are now employed than at any time since the close of 1876. The Iron interests may fairly be included in the above The Iron estimate, although the improvement there is less marked than in other branches. In a recent report we referred to the active demand existing for the products of hardware manufacturers, stove founders, for small ma-chinery, &c. Some little falling off was anticipated, but the demand is well sustainanticipated, but the demand is well sustained, and in many cases is proving to be something more than a periodical spurt. The Baldwin Locomotive Works have a very considerable amount of work on hand, and considerable amount of work on hand, and notwithstanding their enormous capacity, we notice some of their departments making considerable overtime. The leading firms engaged in the manufacture of machine tools and heavy machinery have also made recent additions to their working staff. The Standard Steel Works, we are informed, are working up to their utmost capacity, in order e demand on them for steel tires, The Midvale Steel Works are also do ing a large business in tires, axles and steel of various descriptions. With the exception of shipbuilding, it may be said that the Iron interests show gratifying evidences of in-creasing activity, and in every direction the outlook is one of encouragement and hop-fulness. It must be said, however, that there are general complaints of the unprofit-ableness of business; and with the eagerness shown by all parties to secure orders, there is not much prospect of early improvement in this respect.

Pig Iron.-The market shows no change of importance, and in all respects is ab the same as on date of our last report. The fact of a very large consumption is becom-ing clearly evident, and stocks in many ing clearly evident, and stocks in many directions are gradually molting away. It is difficult to indicate the course of the market during the next four or five weeks, although it might reasonably be expected that the low prices now prevailing would attract attention and load to heavy purchases. Such has been the case to some chases. Such has been the case to some extent, and many lots, both large and small axtent, and many lots, both large and small, have been taken off the market during the past two months. Interior lots have been taken at prices ranging from \$10 @ \$12 % ton, while a considerable quantity of best grades have been bought on private terms, and in some instances the products of cer-tain furnaces secured for delivery in 1879. In the latter case transactions were in a measure precautionary. This class of Iron was a necessity to the purchasers, and as ey doubtless obtained liberal con they doubtless obtained liberal concessions the operation was looked upon as safe and satisfactory. In the case of doubtful brands prices were slaughtered unmercifully, the 4000 tons mentioned in our last belonging to the Jay Cooke estate being sold, it is understood, at \$10 % ton, \$22 having been offered and refused for the same two or three years. and refused for the same two or three years and refused for the same two or three years ago. In proportion to the price of standard brands, however, the sale is considered a very fair one. In regard to the current sales of ordinary Lehigh brands prices are unchanged, the demand being about equal to the supply. There is an evident anxiety, however, to sell for future delivery which imparts a feeling of weakness to the market, and with some an anticipation of lower prices toward the close of the year. With the present output at the furnaces and favorable outlook in business generally, it is not likely there can be any large accumulation of stock, but upon this will doubtless de-pend the question of prices. Some of the companies have a considerable amount of stock on the furnace banks, which will serve to repress any tendency toward an advance, although it is understood that the greater portion is held in second hands and in no danger of coming on the market at anything like present prices. The current product of the Lehigh companies has been well distributed during the past three months, large shipments having been made to the West, as well as to New York and the Eastern States. At the moment it may be said that there is a great demand for large blocks at low prices, but at current rates there is no disposition to anticipate actual wants. We quote same as last week, viz.: Select No. 1 Foundry, \$17.75 @ \$18.50; ordinary Lehigh brands, \$16.50 @ \$17.50; No. 2, \$15.50 @ \$16; Gray Forge, \$15 @ \$16; White and Mot-

tled. \$14.

Blooms.-There is no change to report. The mand is unimportant and prices are heavy lirregular. Nominal rates are as before, .: Blooms (2,464 fb), \$38 @ \$39; Northern and irregular. Ore Blooms (2240lb), \$33 @ \$37; best quality Charcoal Billets (2240 lb), for wire and steel purposes, \$58 @ \$60; Bars do., \$62.50 @ \$65; Sheet Iron Blooms, cornered (2464 lb), \$53 @ \$55; Cold-blast Charcoal Plate Blooms, \$50 @ \$53; run-out Authracite,

Muck Bar—Entirely nominal at \$30 @ 33, Philadelphia delivery. Structural Iron.—There is a fair demand for small lots, and the transactions of the week have been fully up to the capacity of the mills to supply. There are further inquiries and the prospect is somewhat more cheerful than at last writing. Prices are weak, however, and offers are readily ac-cepted from good parties at material concessions from quoted rates. The desire to secure business is the leading principle at the moment, but it is thought prices are needmoment, but it is thought prices are needlessly slaughtered, as the volume of business is in no way increased by reducing prices, and the small margin of profit at quoted rates has been entirely lost in several recent transactions. We quote: Angles, 2.2¢ @ 2.4¢; Tees, 2.4¢ @ 2.5¢; Beams and Channels, 2.7¢ @ 2.8¢.

Plate and Tank Iron.—There has been no change in the condition of the market during the past week, and at several mills business is said to be very dull, while others are still fully supplied with orders. The falling off in the demand for large lots is beginning to be felt quite seriously, and the mills are running more on current orders than they have done for some time past. The demand for small lots is moderately active, but in the absence of work to fall back upon this class of business is somewhat irregular and unsatisfactory. Contracts for bridge work are anticipated in the early fu-ture, but in the meantime things are dull and ture, but it the meantains things are dun and not quite what was hoped for some time ago. We quote: Common Plates, 2.2¢ @ 2.3¢; Tank Iron, 2.3¢ @ 2.5¢; C. No. 1, 2.4¢ @ 2.6¢; Shell Iron, 2.75¢ @ 2.9¢; Flange Iron, 3.7¢ @ 4¢; Solid Firebox, 4.85¢ @ 5¢, and Best Bloom, 5.5¢ @ 6¢.

Bloom, 5.5¢ @ 6¢. Sheet Iron.—Business seems to have taken Sheet Iron.—Business seems to have taken a new start, and in many quarters the demand is said to be pressingly urgent. This, however, is the case more for lots sold at unusually low prices than for purchases at quoted rates. Some of the manufacturers have been pushing business with a view of marketing their surplus stocks rather than to make money, hence they are crowded with orders while others are doing only a moderate trade. A large business has been done during the season, and on the whole the Sheet Iron trade is in a healthy condition. We quote: Common Sheet, No. 20 to 23, 2.8¢ We quote: Common Sheet, No. 20 to 23, 2.8¢ @ 2.9¢; No. 24 to 26, 2.9¢ @ 3¢; No. 27 to 28, 3.1¢ @ 3.15¢; Best Refined Sheet, No. 25 to 28, 3.2¢ @ 3.3¢; No. 22 to 24, 3.1¢ @ 3.2¢; No. 16 to 21, 3.0¢ @ 3.1¢; Best Bloom Sheets, No. 25 to 28, 5.1¢ @ 5.2¢; No. 22 to 24, 5¢; No. 16 to 21, 4.7¢ @ 4.8¢; Refined Plates or Blue Annealed, 5-16 to 16, 2.2¢ @ 3.4¢. American B. G. 2.2¢ @ 3.4¢. 2.3¢ @ 2.4¢; American, R. G., 5-16 to 16, 2.9¢ @ 3¢; Best Bloom, 5-16 to 16, 4.8¢ @ 4.9¢; A Patent Planished, 10½¢; B @ 4.9¢; A Patent Planished, 10½¢; B Patent Planished, 9½¢; Best Bloom Gal-vanized, 45 % discount; second quality, 55 %; extra discounts for large lots.

Bar Iron,-The week has shown some degree of improvement, and there has been more disposition to place large orders than we have noticed for some time past. The transactions of the week have been on a larger scale than usual, but it is said that special inducements have been offered in or-der to attract buyers. We cannot learn that best brands of Iron have been sold at less than quoted rates, and it is likely that buyers have accepted a medium quality in the hope that for the time being it will serve their purpose and give a wider margin of profit. Stocks are very light; hence freprofit. Stocks are very light; hence frequent purchases have to be made, and for the week a fair business may be reported. Some large orders for best Refined Iron at a fraction less than quoted rates have been Some large orders for best Refined from at a fraction less than quoted rates have been declined during the past few days, but it is believed that in several instances medium quality has been taken instead at prices in proportion. Common and medium descrip-tions may be quoted weak and lower, say, Common, 1.5¢ @ 1.6¢; Medium, 1.65¢ @ 1.8¢; Best Refined, 1.9¢ @ 2¢.

Steel Rails.—The amount of business reported is not important, and although some larger orders are in sight, there is a dispo-sition on the part of buyers to hold off for than can at presen tained. The mills have made a heavy output during the past six months, and have reduced the orders on their books very materially; hence there is a desire for new business, and prices have receded somewhat as compared with quotations two or three months ago. Buyers do not respond very promptly, however, and it is not unlikely that quotations will be further shaded before desirable contracts can be obtained. In the meantime we quote \$42 @ \$44, according to location of mill, section of rail, time of delivery, &c.

Iron Rails .- The condition of the martet continues favorable, and with a well-sustained demand prices are steady and firm. The mills are crowded with orders for early delivery and have other business of the same class offered, but as they are mostly full of work they show no anxiety to enter new contracts unless with prices and deliveries to suit their convenience. We quote from \$33 to \$36, at mill, according to location, section of rail, terms of payment,

Old Rails.-The market is very unsettled. and the views of buyers and sellers widely apart. Spot lots are wanted at \$19.50 @ \$20, but the demand is now chiefly of a local character, and very moderate arrivals would speedily affect prices. Sales of small lots have been made at \$19.50 @ \$20 for average qualities and \$1 higher for extra lots. Streets have sold at \$21. The market is

Scrap Iron.-The market is more active, and some large lots of selected quali-ties have been placed at outside figures, viz.: Cast, \$14 @ \$15; Wrought, \$20 @

Nails.-The market has been rather ac tive for small lots for local trade, but price are weak, with \$2.15 as the nominal rate.

Shot.-Market active at former rates, Chilled, 8¢ @ 9¢; Drop, 6½¢ @ Buck, 7½¢ @ 8½¢; Bar Lead in 5 B and 1 B bars, 4¾¢, all less the 71/20: usual trade discount.

#### PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, PITTSBURGH, PA., Nov. 12, 1878.

The elections are over, and the result, there is reason to believe, is acceptable to business men generally, irrespective of party. The people have decided by a large majority in favor of "honest money," and what we want now is more honest men, as well as honest money. Had the inflation movement met with any success, it would, for a time at least, have had a bad influence on general business, as many capitalists, instead of putting their money into active em-ployment, would have been afraid, and trade generally would have lagged in consequence. The voice of the people, if it means anything, is that the government finances are in good condition and should not be disturbed; and it is hoped that the next Congress will make a note of this, and be gov-

erned accordingly.

General business is all that can be expected at this season of the year. Our manufacturers generally are well supplied with or-ders; some of them have sold considerably ahead of their production, and the outlook is encouraging. Liberal shipments of Pitts-burgh manufactures are being made West and South both by river and rail, and our principal streets present a busy appearance. Some of our merchants and manufacturers have done more business this fall than dur-ing the same time for several years, and but for the fact that the margin for profit is unsatisfactory there would be no particular cause of complaint.

The new Pittsburgh and Lake Eric Railroad is almost completed, and it is expected that trains will be put on expected that trains will be put on within the next few weeks. This is a Pittsburgh enterprise, and will give Pittsburgh a rail outlet independent of the Pennsylvania Railroad, and, it is hoped, will release her from the discriminating policy of the Pennsylvania Company. This new outlook will be of invaluable benefit to our manufacturers concernly. turers generally, the Iron trade in particu-lar, as it will place them in direct communi-cation with the furnaces in the Shenango and Mahoning valleys, and at the same time afford them competition for the carrying of their ore from Cleveland. There is no doubt but the new road will take considerable business both from the Cleveland and Pittsburgh as well as the Pittsburgh, Fort Wayne

Pig Iron.—While the market continues rather quiet, as compared with what it was last month, there is a continued fair busines Inst month, there is a continued fair business in the aggregate, and prices are steady. That there has been less doing during the past few weeks is owing to the fact that some of the mills anticipated future wants, and not owing to any falling off in the demand; on the contrary, there is good reason to believe that the consumption is fully as mand; on the contrary, there is good reason to believe that the consumption is fully as large now as it has been at any time this fall, if not larger, as the mills are all in operation, and the foundries are using more probably than at any preceding time this fall. The recent sharp appreciation in Old Rails has had a tendency to stiffen the market for raw I you as at current rates the market for raw Iron, as at current rates the latter is now, so it is claimed, as cheap as latter is now, so it is claimed, as cheap as the former. However, while the tone of the market is one of firmness, the trade gener-ally appear to entertain the belief that there is not likely to be much change one way or the other during the remainder of the year ; although one of our largest holders has been out of the market all this year, refusing to out of the market all this year, refusing to sell at the rates current. Bituminous Coal Smelted Irons are still quoted at \$19 @ \$20, 4 mos., for Foundry; \$17 @ \$17.50 for Neutral, to \$18.50 @ \$19.50 for Forge, the latter figure for all ore Red Short. Coke Irons, \$19, 4 mos., for No. I Foundry, and \$16.50 @ \$17 for Forge. Charcoal Irons continue very dull, other cheaper irons being used in place of them, and unless they can be sold at the price of Coke or Coal Smelted Irons, there is not likely to be any Smelted Irons, there is not likely to be any improvement in the market for them soon. Bessemer Pig continues quiet and unchanged at \$20, 4 mos.

Manufactured Iron.-As stated in our last, while orders have fallen off somewhat, the mills generally are busy, some of them working up to their full capacity, and the outlook is considered favorable for a steady and healthy trade during the remainder of the year. One good effect of the low price een to increase the consumption, causing it for many purposes to take the place of wood, and this in connection with a slight production it is hoped will enable manufac-turers to obtain better prices before long. We continue to quote upon a basis of \$1.75, 60 days, for Merchant Bars.

Nails.-While there has been no improve ment here, there is some comfort in the fact that the advices from the West are more encouraging. At St. Louis, the great distribut ing point of the West and Southwest, an adwance has been established within the past week, the price being fixed at \$2.25, 60 days, from store, and the advance there has pro-duced a better feeling here. Some factories west of here have been selling for some tim past below cost of production, and, as a conpast below cost of production, and, as a con-sequence, they have been getting the most of the business. Pittsburgh has virtually been out of the market all fall, as our manufacturers have refused to sell at the rates, and some of them have let their customers draw their supplies from competing points. The situation at Wheeling is much Streets have sold at \$21. The market is very unsettled, however, and quotations the same as here—but little doing and no very unsettled, however, and quotations the same as here—but little doing and no much inclination to do anything in the present condition of affairs, and no margin present condition of affairs, and no margin and a very large transfer. 

sponge; but it is evident that they are selling at a loss in order to draw trade, and will be obliged, sooner or later, to adopt a different policy. The indications, however, are that the Nail market will be in better ondition for the producing interest by the time the spring trade opens up, and, more-over, it is hoped and expected that the con-sumption will be much larger next year. We continue to quote at \$2, 60 days, with per cent. off for cash.

Rails.—The market for Steel Rails continues fairly active and steady, but un-changed, at \$14, cash, delivered free in Pittsburgh, either on cars or barge. Sale of 1000 tons new Iron Rails at \$35.50, 4 months. Old Iron Rails, notwithstanding the expectation of some operators that prices would rule lower as soon as river navigation was resumed, are still holding their own, and there is no point from which they can be laid down here below our quotation. Sale of 1000 tons at \$23 cash. Steel Rail Ends \$30 cash, at mill.

Steel.-There is a fair business, but there is still considerable complaint in regard to prices, which are being shaved very close. to quality, 101/25 to quality, 101/25 Machinery prices, which are being snaved very close. Tool Steel, according to quality,  $10\frac{1}{2}$  ¢ @  $12\frac{1}{2}$  ¢; Tire Steel,  $3\frac{1}{2}$  ¢ @ 6 ¢; Machinery Steel,  $4\frac{1}{2}$  ¢ @ 7 ¢; Boiler Plate,  $6\frac{1}{2}$  ¢ @ 7 ¢; Plow Steel,  $3\frac{1}{2}$  ¢ @ 7 ¢; Spring Steel,  $3\frac{1}{2}$  ¢ @  $6\frac{1}{2}$  ¢; Steel Blooms, \$42; Steel Bloom Ends, \$30; Steel Billets, \$45 @ \$47.50, cash.

Wrought-Iron Pipe,-The demand for all kinds of pipe continues light, with no prospect of any immediate improvement, as business is always dull during the winter season. No change in discounts; 60 to 65 % on Water, Gas and Steam Pipe and 40 % on Boiler Tubes. Oil-well Casing and Tubing, net cash.

Scrap.-There is a fair business, prices are steady, but unchanged. Old Railroad Springs, net, \$33; Old Car Axles, \$27; No. 1 Wrought, \$21; Boiler Scrap (in sheets), \$21 @ \$22; Axle Turnings, \$15; Sheet Scrap, \$9 @ \$10: Old Car Wheels, gross, \$18; Machinery Metal, \$14; Cast Borings, \$10.50 @ \$11. \$10.50 @ \$11.

Window Glass.—Business continues fair There is no complaint in this re ly active. spect, but there is in regard to prices, which continue very unsatisfactory, affording no margin for profit. We continue to quote ounts on car-load lots at 75 and 5 to 10 per cent., and 75 per cent. in a jobbing

Coke.-There is no abatement in the deand, and not likely to be, as the consumption is steadily increasing, its cheapness causing it to take the place of Coal. It is said that all the ovens in this vicinity are in operation. Prices firmer, but unchanged; \$2.15 \$\text{H}\$ ton, delivered free on cars at Pitts-

Coal.—There is a better feeling in Coal circles, owing to more favorable reports from the down river markets, where with an increased consumption stocks are steadily being reduced and prices are tending upward. A number of the Coal works resumed yesterday, the operators acceding to the demands of the miners, paying them 2½¢ per bushel for mining.

# BOSTON.

Nov. 9.—Pig.—A few dealers report a better business, but this is hardly true of the general market. The sales that have been made have been of small lots at a been made have been of small lots at a time to neighboring foundrymen. Scotch Pig has been selling here at \$22.50 and \$26 for Eglinton and Coltness respect-ively. Glengarnock is held at \$24, and Gartsherrie at \$25. The tendency is down-ward, in sympathy with the decline cabled from abroad. Nails have been in light demand, jobbing now at \$2.25 @ \$2.30. For from abroad. Nails have been in demand, jobbing now at \$2.25 @ \$2.30. For demand, jobbing now at \$2.25 @ Sheet is selling demand, jobbing now at \$2.25 @ \$2.30. For 100-keg lots \$2.20 is the price. Sheet is selling at 3¢ @ 3½ ¢ \$\overline{2}\$ B. Russia is quiet at 10¾ ¢ @ 11¢. We quote English Spring Steel at 7¢ @ 8¢, gold; 9¢ @ 11¢ for German; 9¢ @ 11¢ for Machinery; 14¢ @ 15¢ for Cast; 10¢ @ 12¢ for Blister; 8¢ for American Spring; 13¼ ¢ @ 13¼ ¢ for Cast; 9¢ for Blister, and 7¼ ¢ @ 8¢ for Machinery. In Plate Iron the only activity in this market is in Tank, which is selling steadily at 2¼¢. Boiler Plate is very dull, quoting 2½¢ for No. 1 Charcoal, 2½¢ @ 2¼¢ for No. 1 Shell, and 3¾¢ for Flange. Merchant Bar jobs at \$1.70 @ \$1.75. The Minnesota from Liver and 3% for Flange. Merchant Bar jobs at \$1.70 @ \$1.75. The Minnesota from Liverpool brought 2290 bars iron, Pichard & Co.; 62 cases steel, order. The brig Magic, from Glasgow, brought 22 bdls., 12 rolls and 674 bars iron, order. The Istrian, from Liver pool, brought 801 bdls. and 1683 coils wire rods, Brown Bros. & Co .: 102 bdls. bar iron Congdon, Carpenter & Co.; 11 cases steel, Webb, Hunt & Co.; 583 bars iron, Thayer & Lincoln; 250 bdls. steel, Charles E. Brigam : 250 bdls. steel, charles E. Brg-ham : 25 cases steel, order. Copper has been very quiet, with light sales of ingot at 151/4% @ 157/49. The Istrian, from Liverpool, brought 55 cases yellow metal and 2 casks metal nails, Willett, Hamlen & Co. For manufactures we quote: New Sheathing at 24¢ @ 26¢. The outside price rules in small transactions, but large buyers are purchasing at the inside figure. Bolts are quoted at 26¢ @ 28¢. Yellow Metal Sheathing continues very weak, quoting 12¼¢ @ 13¢ for English, and 13¢ @ 13½¢ for American; Yellow Metal Bolts, 18¢ @ 20¢. Lead can; xellow Metal Bolts, 78¢ @ 20¢. Lead is dull, but prices are very steadily sustained. We quote: Pig, 3½¢, currency; Sheet, 5½¢; Pipe, 4½¢; Tin-Lined Pipe, 12¢; Bar Lead, 4½¢; all of these excepting Pig are subject to the usual trade or 10 ½ discount. Antimony is firm and fairly setting and results of the control of 10 \( \frac{\pi}{2} \) discount. Antimony is firm and fairly active, and we quote 12\( \phi \) 12\( \frac{\pi}{2} \phi \). Spelter continues firm, with little disposition on the part of buyers to sell on the spot at less than 4\( \pi \pi \) 5\( \pi \) for 10-ton lots. The is steady with little change in quotations. The Minnesota, from Liverpool, brought 51 bxs. tin plates, order. The Istrian, from Liverpool, head to be a farrar, Follett \( \pi \). brought 156 bxs. tin plates, Farrar, Follett & brought 150 bxs. tan plates, Farrar, Foliate & Co. We quote: Straits, 154\$ @ 154\$; Banca, 18\$ @ 184\$; Refined English, 145\$ @ 144\$, gold. We quote Plate: Charcoal, I. C., \$5.75 @ \$6; Coke, \$5 @ \$5.25; and Charcoal Terne, \$5.40 @ \$5.50, gold.—
Commercial Bulletin. Commercial Bulletin

Our market the past week has been quiet. Prices of standard brands of Pig Iron main unchanged. We are in constant re-ceipt, however, of low prices for cheap grades ceipt, nowever, or low prices for cheap grades of silver-gray Iron, but the quantities are so small that we do not include them in our quotations. Old Rails are very scarce and firm at quotations, and we learn that higher prices have been offered.

COLD-BLAST CHARCOAL-All Numbers

	No. z. No	. a. Mill,	White and M't'ld.
Old Rails, \$\text{\$\text{\$\text{ton}}\$}\text{ton.}\text{\text{Old Car Wheels, \$\text{\$\text{\$\text{\$\text{\$\text{ton}}\$}}}}\text{ton.}	m	08. 19.00 08. 17.00	@ 20.00 @ 18.00
Light " "		46 .40	@ ····
No. 1 Wrought Scrap Heavy Cast Scrap	P C		@
Assorted Bar Iron		E.95	rates.
Alabama	A 100	06, 22.00	@ 23.00
Georgia	DO		@ 23.00
Missouri	M		© 23.00
Kentucky	4 100	08 93.00	@ 23.00 @ 23.00
Hanging Rock Tennessee	4 III	OS. \$23,00 OS. 22.00	@ 25.00
Hanging Dook		4	-

	No. 1.	No. 2.	Mill.	White and M't'ld.
Missouri Stone Coal	\$21.00	\$20,00	\$10,00	\$17.00
Missouri Charcoal	20,00	10.00	18.00	
Tenn. Charcoal	20,00	18.50	17.50	****
Tenn. Coke, very soft				
and strong	20.00	10.00	17.00	16,00
Hang, Rock Charcoal Hanging Rock Cold-	22,00	20,00	19.00	*****
short	Extra		В	
Alice Hanging Rock	No. 1.	No. z.	No. 1.	No. 2.
CokeBlackband	22,00	\$1,00	19.50	19.00
Ores	21,00	20,00	19.50	18.00

#### LOUISVILLE.

Messrs. GEO. H. HULL & Co., under date of Nov. 11 write us as follows: The demand for all grades continues good, and the pros-pect for a good fall trade is excellent. The usual time, 4 mos., is allowed on the quota-tions below:

FOUNDRY IRONS.		
No. z Hanging Rock, Charcoal		
No. 2	19.00 @	20.00
No. z Southern, Charcoal	18.00 @	18.50
No. 2 " "	16,50 @	17.00
No. z Hanging Rock, Stonecoal and		
Coke	19.00 @	20,00
No. 2 Hanging Rock, Stonecoal and	,	100
Coke	18.00 @	18.50
No. z Southern, Stonecoal and Coke	18.50 @	
No. 2 44	17.00 B	
"American Scotch"	18.00 @	
Silver Gray	16,00 @	
MILL IRONS.		100
No. 1 Charcoal, Cold-short and Neut'l. No. 1 Stonecoal and Coke, Cold-short	16,00 🚳	17.00
and Neutral	46 an 10	af an

No. 2 Stonecoal and Coke, Cold-shert ..... 14.50 @ 45.00 CAR WHEEL AND MALLEABLE IRONS.

W. B. BELKNAP & Co., Iron and Steel w. B. Belknap & Co., from and Steel merchants, Louisville, Ky., under date of Nov. 11, write that there is no special change to note since last report, trade for Merchant Iron, Steel and heavy Hardware

continuing brisk and encouraging, both in volume and tone. The advance already gained in the card for Bar and Sheet is more than maintained, and is further supported by an improved feeling in Pig Iron. Nails are still scarce, but prices unchanged. The financial situation is somewhat embarrassed by the large number of past-due accounts in by the large number of past-due accounts in the region visited by the yellow fever, which still lingers in spots and prevents the com-plete resumption of business activity. But while money is thus rendered uncomfortably close, it is believed that no serious losses will ensue. With the daily progress making toward the extinction of the epidemic and the return of the great army of refugees, there is room for still further improvement in every department of business in the Southwest.

### CINCINNATI.

Southwest.

Messrs. E. L. Harper & Co., under date of Nov. 9, write us as follows: No advance in prices has been realized, but the market is firmer and apparently in favor of sellers. The feature of large stocks of all grades which have been so long a characteristic is now largely overcome by the steady reduction which has been going on for some time, bell, for hell,

9	ticed. We continue to quote.	
	HOT-BLAST FOUNDRY.	
	Hanging Rock C. C., No 1,	21.00 @ 22.00
1		
	Alice, No. 1 Extra, I. M	21.00 @ 23.00
1	Alice, No. z Extra, I. M No. z N. O	20.00 @ 21.00
1	No. 1, N. O	20.00 @
1	Hanging Rock Coke and S. C., No. 1	18.00. 0 20.00
)	8, C., No. 2	16.co @ 18.00
	Virginia Coke, No. 1	10.50 ( 10.00
١	" No. 2	17.50 @ 18.00
١	Shawnee S. C., No. 1	18.50 @ 10.50
٠	" S. C., No. 9	16.00 @ 17.00
	Hocking Valley S. C., No. 1 S. C., No. 2	10.00 10.50
ı	8. C., No. 2	16.00 @ 17.00
	FORGE IRONS.	
	Hanging Rock, No. 1 C. C	19.00 @ 19.50
ı	Hanging Rock, No r Coke	16.50 @ 17.00
1	Longdale, No. z Coke	17.00 @
١.	Ala. and Tenn. No. r C. C	17.00 @
,	Red-short, No. z Coke	18.50 @ 19.50
	Cold-short, No. 1	15,50 @ 16.00
,	Old Rails, primecash,	@
ı		
1	CAR WHEEL AND MALLEABLE	E
	Hanging Rock C. B	30.00 @ 31.00
	Cherokee C. B	28.00 @
١	Southern and Western Brands	28.00 @ 30.00
		30,00

# BALTIMORE.

Mr. W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, reports us the following prices under date of Nov. II: A fair average business was done last week. Stocks, as a rule, are light and much broken, with values firm and un-

Refined Bar Iron, 1 to 6 wide by 36		- 0	_		
Refined Bar Iron, 1 to 41/2 wide by	ID	1.85	@	3	
11/2 to 2 thick	66	1.85	@	2	
Refined Bar Iron, % to 2, Round			_		
and Square	6.6	1.85	6	2	
Hoop iron, 11/4 wide and upward	66	236		23/	ί
Band Iron, from 254 to 4 in, wide.	9-6	234	an.	23	ζ
Horse-shoe Iron	66	3	6	33	í
Norway Nail Rods	66	436	6	53	Ž
Black Diamond Cast Steel, Flats,		7/4	-	3/4	•
Squares and Octagon, ordinary					
sizes	66	**	a	24	
Machinery Steel	56	23	×	10	
ast Spring Steel	46	6	22	654	
Homogeneous Steel Plate	44	0	*	73	
	44	7	99		
Common Horse Nails		13	99	16	
R. R. Spikes, 51/4 x9-x6		2769	Q.	25	
Perkins' Horse shoes, W keg of 100 l	DS.			3.64	ř
ii Mula shoos				4 640	ı

Messrs, R. C. HOFFMAN & Co., Iron and Commission Merchants, No. 23 South Frederick street, report the Pig Iron market as follows, under date of Nov. 11: We have Irons, and with the light stocks now held prices are very firm at quotations.

E								-									
Baltimore (	Char	COE	1	PL	g.						* *				\$26.00	0	28,00
Virginia															26.00		
Anthracite	No.	1		* *		× 3		×		×				. ,	 19.00	0	20.00
44															18.00		
64	No.	3					- 0								 16,00	0	17.00
4.5	Mot	tlec	1 8	m	d.	W	h	ıi	t€	) .			0		 13.00	0	14.00
Charcoal, (	. B.	Bl	00	m	8.			0				,	0	0	 50.00	0	52.00
	**	131	He	UB									9	0 1	 52.00	0	55.00
Refined Blo	ooms							0							43.00	0	45.00

#### RICHMOND.

Mr. ASA SNYDER, Iron Merchant and Furnace Agent, writes as follows under date of Nov. 11: About 1000 tons of Pig Iron have been taken by our mills and foundries the past week on account of winter stock. Old Rails continue in demand. I quote as below:

Anierican Scotch Fig Iron	21.50	CB.	22,50
Anthracite, No. 1	19.00	0	20.00
16 No. 2	18.00	0	19.00
16 No. 3	17.00	@	18,00
" Mottled	14.50		
Coke, No. 1	10.00		
" No. 2	18.00		
" No. 3	16.50		
Va. Cold-blast Charcoal, Cold-short	20,00		
Va. " Neutral	27.00		
Va. Warm-blast " Cold-short	18,00		
Va. " Red-short	17.00		
Old Rails	17.00		
Wrought Scrap No. 1	16,00		
Cast " (machinery)	15.00		
Richmond Refined Bar Iron	2C.		
Horse Shoes per keg			4.00
Mule " "			5.00
Old Dominion Nails, Standard Size, &		W	5.00
how are a resident to the total to the total tot		-	

by sail.
Freights to New York, \$1.60 per ton of 2240 lbs

#### FOREIGN.

#### FRANCE,

(Moniteur des Interets Materiels.)

(Moniteur des Interets Matericls.)

Paris, Oct. 27, 1878.—Metals.—Business has been gradually improving, and the probability is that we shall have a tolerably active month of November, to be followed as usual by two dull months. Copper shows increased firmness, although the volume of business in this metal is still restricted. We quote, deliverable at Havre: Chili Bars, 157, 50 frances the roc kilos; Common ditto, 153; Ingots and Slabs, 162.50; Best Selected English, 167, 50; and pure Corocoro Ore, 163.50. At Havre Chili Bars are quoted as follows, Paris conditions: First brands, 158.75; good current ditto, 156.36 (2015), 50; and Lots and Urmeneta, 155 (2015), 25. Marsellies has been steady, but quiet. They quote: Spanish, in slabs, 150; Red Tokat, 155 (2015), 50; and Lots and Urmeneta, 155 (2015), 25. Marsellies has been steady, but quiet. They quote: Spanish, in slabs, 150; Red Tokat, 155 (2015), 50; small Refined Ingots, 172.50; Sheathing, 185; Bolts, 190; and Yellow Metal Sheathing, 185. Tin has been gradually improving in consequence of the falling off in Australian shipments to England and the advance at London and in Holland. We quote Banca, deliverable at Havre and Paris, 160 (2016), 50; Silliton, 155 (2015), 50; Straits, 150 (2015), 50; Australian, 149 (2015), 2016, one-third, while prices have declined 5 francs. This decline has been brought about by decreased consumption, great competition among makers, and the decline in Coal. Against fine French Iron the Swedes and Germans have competed successfully, and at the same time we have had to stand the influx of Common Fig Iron from Luxembourg, and best quality Pig Iron from Westphalia. The Steel makers of France have been better situated, our navy and railroads being large consumers thereof all along. The demand for architectural Iron bas been steadily on the increase in France, and at Paris in particular. The demand here remains active, including Merchant Iron. First quality Sheet Iron commands at Paris 220 francs per ton; Common Sheet is utterly neglected. The demand for machinery is brisk, but rates have not improved. Taking a general view of the Iron trade in France it cannot be denied that it is a more flattering one. At the North, Merchant Iron intended for Paris is selling at 145; ditto for the provinces, 150, and in small lots, 152, 50. Nothing of special interest has occurred in the Meurthe and Moselle foundry districts. Large lots "affinage" Pig sell in that locality at 56 francs. Foreign Pig is offering at 46 francs on the frontier. The syndicate which has in charge the liquidation of the Liverdun failure is in hopes of scraping together money enough to put the works agoing once more. The latter classes of Iron are in better request in the Haute-Marne to the neglect of common species. Coal is inactive and rather improving.

Baussels, Oct. 27 1878.—Iron.—The Iron markets of Belgium have been devoid of special features during the week, having remained quiet on the whole, and without any improvement in values. The rolling mills turning out Merchant Iron have a sufficient amount of orders on hand to keep them moderately busy. Sheet Iron mavalues. The rolling mills turning out Merchant Iron have a sufficient amount of orders on hand to keep them moderately busy. Sheet Iron makers, and notably those turning out special brands, have a good run of orders. Machine shops, and especially those devoted to certain lines of uniform goods, have commands enough to keep them going into the winter months. Meanwhile Belgian manufacturers in the Iron line do not lose sight of the remoter foreign markets. This relates more particularly to rolling stock for the Australian railroads in view of the fair chance which Belgium makers have in that distant British colony in competing with England. The success which American locomotive builders have had there is also well calculated to stimulate exertions on the part of our Belgium locomotive shops in the same direction. Coal.—The demand for household purposes is rather on the increase, as is usually the case at this time of the year, and Belgian beet-rost sugar houses are now also coming in for a fair share of supply. Between the two increased activity is observable without thus far leading to any improvement in prices. Our Coal companies have had little cause to be satisfied thus far this year, and dividends will be slim, but if they have not made much money, they have at least held their own, which is saying a great deal, considering the experience made in the same branch in neighboring countries.

### GERMANY.

(Borsenhalle.)

Hamburg, Oct. 26, 1878.—Metals.—Although business in the metal line shows no great activity yet, there are some indications that a fair trade will still be done ere the dull holiday spell in December and January is upon us, and as values are steadier and in some instances even looking up, consumers and the trade will feel less diffident as to anticipating requirements, at least on a moderate scale, should this be the case the aggregate increase of activity will prove quite respectable. Copper.—No actual advance can as yet be reported, but as the stocks in the hands of consumers are understood to be light, we may look forward to some steadiness in the demand. Hamburg and Stettin are unaltered, while Berlin is steady at 68 @ 72.50 marks. The has been rising faster than has been the case at any previous time during the year, and Banca now commands 66 marks the 50 kilos. at

Berlin and Stettin. We are firm here. Lead.—Decreased production in Spain may be instrumental in gradually helping the metal; at all events, our markets are firmer, and we quote here, at Berlin and Stettin, 13 @ 18.50 marks the 50 kilos. Spetter is as yet slow in chiming in with the improved tendency observable in the above metals, which attitude of indifference is mainly attributable to the season of the year, usually one of the dullest in Spetter. We quote the three markets nominally 18.25 @ 19 marks the 50 kilos.

#### HOLLAND.

(Koch & Vlierboom.) ROTTERDAM, Oct. 26, 1878.—Tin.—The market has been stiffening during the week under review, and Banca now commands 36.50 guilders the 50 kilos., while Billiton sells with ease at 35.50.

#### EAST INDIES.

(Schmidt, Kustermann & Co.)

(Schmidt, Kustermann & Co.)
PENANG, Sept. 16, 1878.—Tin,—Transactions for Europe have been very small, and only a moderate business has been done for China. During the earlier part of the four weeks under review prices were ranging from \$18.50 to \$17.85 ₩ picul, but subsequently dealers had to accept still lower rates, the market closing weak at \$17.62 ½, Exchange.—The sterling rate has been fluctuating, ranging for last mail at 3/10½ № 3/2½, since when a further decline has taken place, the local stands at the same time drawing at 3/9½ for this mail.

#### CHINA.

(Arnhold, Karberg & Co.)

(Arnhold, Karberg & Co.)

CANTON, Sept. 20, 1878. — Coal.—Notwithstanding comparatively moderate receipts there is still no improvement to record in the position of this market, nor is there any practical indication of an early change for the better. The requirements of consumers seem to be satisfied for a long time to come, and even at present low rates sales cannot be effected without difficulty. Settlements during the fortnight have been confined to the sale of the cargo per Mingdon at \$6.75 \$\frac{1}{2}\$ ton in credit. An offer of \$6.55\$ for the cargo of the Glamis has been rejected, but we doubt very rauch if a better bid will be obtainable. For Cardiff Coal there is no market at present. The cargo of the Challenge is offering at \$8.50 \$\frac{1}{2}\$ ton without finding buyers. The visible supply amounts to 20,860 tons from all quarters.

# Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.) LONDON, ENG., Oct. 28, 1878.

THE PAST WEEK has been quiet in respect of the amount of business actually transacted, but it has been an anxious period for a great many persons in various parts of the country, owing to the serious uncertainty that exists on the score of credit and stability. The wave of failure which has spread outward from the mael-strom of the Glasgow Bank suspension has already covered a wide area, and is exceedingly likely to prove further reaching than at first seemed likely.

### IN SCOTLAND

matters are, in a sense, chaotic, for the ample reason that nobody can as yet tell precisely what his or his neighbors' liabilities are. Hundreds of persons are directly affected as depositors, and hundreds of others as share-holders. This is the case not only in Glas-gow and Edinboro', but in the 150 and odd towns and villages where the bank had towns and villages where the bank had branches. It has been decided to make a call of £500 per £100 share, payable in two installments, in December and February. This heavy requisition will, as a matter of course, ruin a large number of persons, unless (as is probable) they are aided by public subscriptions. Bearing in mind the prover-bial fickleness of charity, however, a few sagacious shareholders have quietly realized their effects and departed to other climes, "preferring," as one of them says, "expatriation to poverty." Commercially this is

VERY SERIOUS, inasmuch as it is obviously impossible for business to prosper while so vast and shifty an incubus weighs down the resources and hopes of the North Country. To have to provide over 6,000,000 sterling within a limited period is a most gigantic task, and one which cannot be accomplished without being the cause of an alarming and wide spread distress. Already

### MANY OTHER FAILURES

have taken place, and several others are known to be impending. During the week the principal financial stoppages have been: Matthew & Faillie, merchants, of Glasgow, Rangoon and Moulman, habilities, £1,350,ooo; Morton & Taylor, merchants, London
and Glasgow, liabilities, £2,500,000; James
Sawers & Co., copper, &c., merchants,
Liverpool, owing nearly £2,000,000; Couper, Scott & Co., African merchants, Glasgow liabilities, £600,000; Henderson & Dim mock, merchants, Glasgow, £80,000; Walter Clark, steel and iron agent, Sheffield, ewing £4520; James Wilkinson, builder, Sheffield, owing £7000, and a variety of smaller examples

### THE IRON TRADE

is, and is likely to remain, very dull all over the country. In Scotland matters are clearly serious, while in all the other pro-ducing districts the quantity in stock and store is so considerable that a further limitaof the output is regarded as being in-able. Pig iron, indeed, can be bought at almost any price. Any purchaser who carries cash in his hand can buy pretty much on his own terms. While in Sheffield the other day a founder told me that he had that day bought Derbyshire pig which was quoted at 39 for 36 by means of "paying down on the nail" for it. In other districts the same observation holds good—the mar-ket is disorganized and holders must realize at any pri

# THE POLITICAL SITUATION

is not of a nature calculated to improve trade prespects here or abroad, and would appear to be likely to spoil the chances of our having a clear revival next spring. In Eastern Europe complete chaos reigns, while in India and in Central Asia the din of warlike preparations is wholly paralyzing business. It is now quite certain that there business. It is now quite certain that there will be no change for the better this year, and that, as an inevitable sequence, the winter will be a hard and bitter one for the poor—whom, in this country, we have

always with us. Some of the apparently the imports comprised over 5250 tons of iron well-to-do people will also suffer, and traders of all ranks will need to exercise the know that during September Cardiff cleared greatest possible care. The only consolation we have is that, although the East is void of hope, the West is mostly unclouded and promising. To the West, then, we turn, a la Greeley, and in trying to "do our level best," have felt interested

#### ABOUT CANADA

and the statements made at Sheffield last week by Mr. Paterson, secretary of the Dominion Board of Trade. That gentleman referred at some length to the subject of the federation of the various British dependencies-of Canada and the North American Possessions, of the British West Indies, of the African Territories and of our Australasian colonies. He mentioned that steps had already been taken for forming a customs union in the Antipodes, and warmly advocated the principle generally on a free-trade basis. This idea also received the support of Mr. F. Brittain, the well known trade statistician, whose opinion was that it is to her colonies that Great Britain must look for her customers in the future.

#### THE SCOTCH IRON TRADE

is naturally dull and quiet, with a good deal of uncertainty as to the immediate future, Two or three additional furnaces have been blown out, leaving 90 now in blast. The highest number in operation at present is at highest number in operation at present is at Coltness, where there are 11 in use, while at Gartsherrie there are 10. There are 9 making the "Eglinton" brand. Prices range from 65/ for Selected Carron, and 60/ ordinary Carron down to 45/ for No. 1 Eglinton; Gartsherrie No. 1 being 51/6 and Glengarnock No. 1, 48/6. The total stock in the official stores is 198,733 tons, as against 164,412 tons same date last year. Ballast pig runs at about 43/ per ton along-side. Foreign shipments are still on a very small scale. small scale.

#### IN CLEVELAND

prices are irregular, owing to the evil influence exerted by the repeated stoppages in Scotland and elsewhere. The trade in ship plates is very considerable. At Bolck w, Vaughan & Co.'s Eston Works Boles w, Vaughan & Co.'s Eston Works about 1500 tons of steel rails can be pro-duced weekly, and that quantity is actually being turned out at the present time. The Middlesboro' Iron Works of the same proprietary are also being converted into steel

#### BESSEMER STEEL ANCHORS.

The Admiralty have apparently decided to give Bessemer steel anchors a trial, the Ironmonger having been favored with the following communication, signed by Mr. Robert Hall, one of the chiefs of the department: "I am directed by My Lords Com-missioners of the Admiralty to inform you that no decision has been come to to allow steel anchors to be generally used in place of wrought iron ones; but a trial of two or three steel anchors is about to be made, and no reason is seen why they should not give satisfaction."

### AT SHEFFIELD.

where I have been staying for a few days, I where I have been staying for a few days, I have found almost universal complaints of the dullness of trade. My acquaintances and friends in that town include persons in almost every branch of the iron, steel and hardware industries, so that I may fairly claim to be in a position to ascertain pretty precisely how matters really stand. I find the iron trade exceedingly slack—some of the larger establishments, such as Brown's and Cammell's, having very little to do in and Cammell's, having very little to do in those departments. In cast steel sales are declared to be deplorably slow and at prices which are cut down to extremely low levels by the eagerness of competition. Notwith-standing this, manufacturers of this material appear fairly confident as to the future, and profess to regard with equanimity the chances of Bessemer or Siemens material being used for tools and other superior pur-poses. On the other hand, the manufacposes. On the other hand, the manufac-turers of Bessemer are quite sanguine in the other direction, and point to the success of John Brown & Co.'s chrome (Bessemer) steel in justification of their hopes. The larger cuttery houses are moderately well engaged, although the low value of silver is hinder-ing business with India and the East. The electroplaters are fairly well engaged; in-deed I went through several of these works which are doing quite an active business. One house has made a hit with a new article. and has sold over 1000 this year. In this branch Sheffield professes to despise Bir-mingham, to the productions of which she points with scorn on account of their generally low quality and unmitigated "cheapness." The edge-tool manufacturers are doing a limited business, and most of the brase founders are steadily engaged. The engineering branches are wretchedly off for orders; indeed many of the shops are literally unoccupied.

### STAFFORDSHIRE AND BIRMINGHAM

are essentially quiet, and are not unlikely to participate in the financial tribulation which has overtaken other parts of the country. Sundry rumors are already in circulation and are hardly calculated to improve the status of the persons to whom they refer The iron branches proper are excessively dull, and for the most part are being carried on minus any profit worth naming. In the wire departments German competition is alleged to be "playing the very deuce" with the Worcestershire, Shropshire and Staffordshire manufacturers, and is said to be rapidly increasing in formadibility. A Bir-mingham manufacturer who has been into Westphalia in order to investigate the causes of the Teutonic successes in this line reports that the wire works there are ex ceedingly active, some of them being equal to the production of 2000 tons annually. They are also going into galvanizing, with which augmented facility English selling prices are likely to be affected to the extent of £3 or £4 per ton. The leading hardwar industries of the Black Country are steady. The leading hardware

# SOUTH WALES AND MONMOUTHSHIRE remain in much the same stagnant industrial condition as when last reported upon.

know that during September Cardiff cleared to foreign parts 332,604 tons of iron, as against 299,119 tons in the same month of 1877; Newport, 71,647, against 42,115 tons; Swansea, 48,711, against 52,969 tons; and Llanelly, 4838, compared with 3144 tons. Coastwise clearances during the same period Coastwise clearances during the same period were: Cardiff, 65,372, against 79,041 tons; Newport, 74,954, against 76,065 tons; Swansea, 18,669, against 24,092 tons; and Llanelly, 11,849, against 10,951 tons.

#### British India.

Of the 191,000,000 inhabitants of British India the religious denominations are given as follows: Hindoos, 139,343,820; Sikhs, 1,174,436; Mohammedans, 40,867,125; Budd hists and Jains, 2,832,851; Christians, 897, 642; others, 5,417,304; "religion not known," 532,227. The united military forces of the native States are estimated at 300,000 men. The gross revenues of the chiefs amount to £16,000,000, and they pay £725,000 tribute money to the British government. The British receipts and expenditure for India average about £50,000,000 a year. The army of the empress numbers 200,000, of which 70,000 are English troops. numbers may be added 190,000 native police. who also perform frontier service. They are under the command of British officers. There are under the British government, not there are under the British government, not including the native States, 493,444 villages, townships, &c., of which 480,437 have under 5000 inhabitants. The average number of inhabitants is 211 per square mile. There are 44 habitants is 211 per square mile. There are 44 towns or cities with a population of more than 50,000, the seven largest being Calcutta, 794,645; Bombay, 644,405; Madras, 397,552; Lucknow, 284,779; Benares, 175,-188; Patna, 158,000; and Delhi, 154,417. The whole number of government and private schools in British India is something over 53,768, giving instruction to an approach of 2000,000 scholars. The schools proach of 2,000,000 scholars. The schools exist in regular gradation, from those which give the humblest elementary instruction to the highest colleges; the best pupils of one grade are able to pass through the other grades by means of scholarships. To complete the system, at each of the three Presidency cities there is a university established on the model of the London University The medium of education in the elementary schools is the vernacular languages, into which are translated the best elementary English treatises. There are normal col leges for the training of masters. The study of the classical language of India is maintained, and the English language is taught in the Anglo-vernacular schools and colleges established for the education of the middle and upper classes of society.

Ship Property.—Mr. A. J. Maguire, in his circular for October, says: The ten-dency of the market for this property the past few months has been toward lower values, and this, in the face of facts, is somewhat remarkable, our foreign exports thus far in the year exceeding any similar period in our history, and the construction of new tonnage being less and the losses at sea greater than in several years past. These causes have effected nothing, however, to the benefit of owners, owing to the immense superabundance of tonnage in every quarter—especially steam. But for this we might have seen as high freights the present year as prevailed in '73. The lack of employment from the Mediterranean and Black Sea ports, as a consequence of the late war in that quarter, caused a large amount of tonnage heretofore engaged in that trade to seek business in this direction, thus aiding the de-pression. The only remedy of the case is to cease the production of the commodity already so greatly in excess of the wants of rade. New ships of eleven years' French class are offering at \$37 per ton register,

The St. Albans Iron Works .- A dispatch from St. Albans, Vt., under date of Nov. 12, 1878, says: Nine writs have been served on the St. Albans Iron and Steel Works and all the real and personal property attached, thus shutting down the works and throwing 100 men out of employment. All but two of no men out of employment. All but two of the writs are in favor of home creditors, the heaviest being the First and Vermont National banks and A. O. & Herbert Brain-erd. The cause of this action was a panic caused by a threat of the assignee of the St. Albans Foundry Company to institute pro-ceedings for a \$3000 claim. The creditors thereupon took action and have nearly all amply secured their claims. The total liabilities of the company are upward of \$100. ooo. A meeting of the stockholders has been called for the 18th inst.

In 1865 Dr. W. H. Russell, as the London Times correspondent with the Atlantic cable expedition of 1865, wrote: "But as a mite ould in all probability never have been en but for the invention of cheese, so it may be that there is some undeveloped cre tion waiting perdu for the first piece which comes down to gutta-percha which comes down to arouse his faculty and fulfill his functions of life—a nis ractive, and rulini as functions of inc—a gutta-percha boring and eating teredo who has been waiting for his meal since the beginning of the world." While the Doctor wrote these words his prophecy was being actually fulfilled. The borer was at work. The Levant cable, laid in 1858, and taken up the next summer, was found to be beset by millions of small shell-fish or snails, accompanied by small worms, which had completely destroyed the hemp of the outer sheathing, and eaten circular holes in the gutta-percha core Prof. Huxley, on examining these shells, wrote: "The specimens you sent me remove all doubt as to the nature of the mischief-maker in the cable. It is a bivalve shell—the xylophaga—closely allied to the shipworm (teredo), but distinguished from it, among other peculiarities, by not lining its burrow with shelly matter. The xylophaga turns beautifully-cylindrical burrows, always against the grain, in wood, and I have no doubt it perforated the hempen coating of the cable in the same way. On meeting the gutta percha it seemed not to have liked it, and to have turned aside, thus giving rise to the elongated grooves which we see

An American Engineer in Brazilian Service.—Washington advices state that Col. W. Milner Roberts, Chief Engineer of the Northern Pacific Railroad, has been offered and has accepted the position recently tendered to Capt. Eads by the Emperor of Brazil, to superintend the work of improv-ing the naving after of the water highways of that empired the state of that empire. The selection of Col. Roberts for this place was made upon the recommendation of Capt. Eads. The contract is mendation of Capt. Ears. The contract is for three years, with a salary of \$20,000 per annum. Col. Roberts is one of the oldest and most successful engineers in the United States. He has been actively engaged in his profession for 40 years. He is president of the Society of Civil Engineers; also mayber of the Powel Lastitute Civil president of the Society of Civil Engineers; also member of the Royal Institute of Civil Engineers of Great Britain. During the illness and absence of Capt. Eads in Europe he was in charge for one year of the St. Louis Bridge. He was also under the government in charge of the improvement of the Ohio River, and is a member of the Board of Engineers which designed the Keokuk Bridge over the Mississippi River, and a member of the Commission of Engineers in 1874 charged with the investigation ers in 1874 charged with the investigation of the practicability of opening the mouth of the Mississippi by means of jetties. Col. Roberts will immediately close up his relations with the Northern Pacific Railroad and depart for Brazil at the earliest practi

The London Globe warns English workingmen not to strengthen the hands of foreigners by renewing the disastrous struggle between capital and labor, which has done so much of late years to paralyze native industry. Noting the importation of American boots and shoes, cheese, perfumery, jewelry and piece goods, it says: We mery, jewelry and piece goods, it says: We have no right to complain of the invasions, but it certainly behooves us to endeavor to meet the Americans by producing, if possible, better manufactured articles at equally moderate prices. It is said, by the way, that enormous quantities of American cheese are sold in England for Cheddar, Cheshire and Stilton. The London Daily News, in its report of the exhibits at the recent agricultural show in London says that very little cheese that is called Cheddar comes from the place of that name near that very little cheese that is called Cheddar comes from the place of that name near Bristol, or from any district within ken of Bristolians. Most of it, indeed, is American, like some of the finest of our reputed "Cheshires," and if things were but called by their right names, in commerce and out of it, American cheese would come in for its due share of praise, instead of being haltingly acknowledged or genteelly falsified. As a matter of fact, certified with acclamation by all the judges. America. acclamation by all the judges, America, with which is geographically incorporated Canada, affords the grandest class in the Exhibition.

A party of enterprising explorers in A party of enterprising explorers in search of the North Pole left Indianapolis on the 7th ult. They are even hopeful that in the extreme northern regions they may be able to find some traces of the long-lost explorer and navigator, Sir John Franklin and his followers. The party will proceed to the Red River of the North and descend said river as far as Pembina. From the latter place a small steamer will carry the exploring party as far north as navigation will permit. They will then proceed as best they can to Fort York, on the west side of Hudson Bay, in about 58 degrees north latitude.

At this point they will put their boats together, carried in sections a la Stanley, and launch them and push as far north as 80 degrees before going into winter quar-ters. We understand that the Governor-General of Canada, has received instructions from the home government in Great Britain from the home government in Great Britain to aid and assist the expedition in every possible way. A band of fifty tried Esquimaux trappers and fishermen are engaged to accompany the explorers. The Esquimaux are thoroughly equipped for the voyage and provided with trained dogs, sledges, reindeer, &c., and can travel at a rapid pace.

There has been considerable excitement n Sheffield among the consumers of gas as to whether the electric light can be employed with advantage in the illumination of buildings where a large amount of light is required. The gas companies are much "moved" in the matter, and the question of economy is as yet a doubtful one. In London the question has been discussed beore shareholders in the great companies. but as yet few experiments have been made in the provinces. Notwithstanding adverse criticisms, we hear that a trial will be made in the illumination of the interior of some of the public buildings of Sheffield, and though opinions for the present are against the adoption of the new light, yet much will depend on the question of economy. Certain Sheffield firms will in a few weeks make a great practical solution of this difficulty. Pullar's dye works at Perth have adopted the electric light, as it is said it enables the workmen to see the colors better and in Sheffield a game at football has been on Brammell Lane Ground beneath the rays of the same apparatus.

According to Science pour Tous a new method of giving signals of warning at sea has recently been perfected, and is now em-ployed with success at one of the most dangerous points on the coast of Bretagne. The signals consist of sounds, which are resignals consist of sounds, which are re-peated at short intervals, and can be heard. even against the wind, at a distance of six kilometers. The apparatus by which these kilometers. sounds are produced is self-acting and very simple. It consists of a hollow cylinder, a few centimeters in diameter and three or four meters long, closed at the lower end and secured by an anchor to the bottom of and secured by an ancnor to the bound a pump the sea. In this cylinder is found a pump the sea. In this cylinder is compresses it, and which sucks in the air, compresses it, and sends it out through a whistle, and this pump is worked by a huge fagot, floating on pump is worked by a nuge ragot, hoating on the surface of the sea, and whose move-ments, rising and falling with the waves, furnish the sufficient force. This apparatus, which is said to have been invented by an American, has, we are told, many and great advantages in comparison with the bell apparatus hitherto used in such places.

#### Scientific and Technical Notes.

Boettger recommends the following as a DELICATE TEST FOR NICKEL.

The addition of a small quantity of xan-thogenate of potassa to a solution containing nickel salts produces an intense yellow col-oration. The addition of a large quantity causes a yellow precipitate. The same reaction is yielded by salts of copper; but the color disappears at once on the addition of a few drops of ammonia, while in the case of

nickel, ammonia does not affect it.

In a letter to the editor of the American
Journal of Science and Arts, Prof. C. H. F. Peters, of the Litchfield Observatory of Hamilton College, Clinton, N. Y., announces the

TWO NEW PLANETS.

in addition to the one discovered Sept. 9, called Phthia. The new ones, named Ismene and Holga, were found on Sept. 22 and 30 respectively. Their magnitudes are 11.5

and 10.5

R. Galloway gives the following description of the methods of

EXTRACTING IODINE AND BROMINE FROM KELP.

Many methods have been proposed for the Many methods have been proposed for the extraction of the two metalloids—iodine and bromine—from the ash of sea weed; but the only one, as far as I am aware, which has been followed in the United Kingdom, at least up to a very recent period, is the one ascribed to Wollaston. By this method they are set free from the metals with which they are combined by the addition of subplicity acid and manganese perceived to sulphuric acid and manganese peroxide to the mother-liquor which remains after the extraction (of course, as far as it is practicable) of potassic sulphate and chloride, and what are termed the kelp salts, which are a mixture of sodic sulphate, carbonate and chloride. The sulphuric acid is added for a twofold purpose; a portion is required for the decomposition of the alkaline sulphides, the decomposition of the alkaline sulphides, sulphites, and hyposulphides present in the mother-liquor; the other portion, along with the manganese oxide, liberates the iodine and bromine from their combinations. When and bromine from their combinations. When the sulphur which is set free from the de-composition of the hyposulphites has com-pletedly deposited, the clear liquid is drawn off into the iodine still and the manganese peroxide is then added to it. When this percess first came into operation, bromine had not been discovered in the ash of sea weed; even the late Dr. Anderson, in his well-known and often quoted analysis of the ash of sea weed, does not give it as a con-New analytical investigations of stituent. New analytical investigations of the ash of the various sea plants are wanted; the plants ought to be carefully freed, before incineration, from all adhering salt water, so that the quantities of chlorine, bromine and iodine they naturally contain might be correctly ascertained. The in-vestigation would lead, most probably, to the discovery that there are, properly speak-ing, bromine, as well as iodine, producing plants.

Iron speaks very highly of a new method

PROTECTING IBON FROM OXIDATION. invented by J. B. A. Dodé, of Paris, which, while it is highly ornamental, is capable of resisting corrosien very well. The principle of Mr. Dodé's method is to coat the surface to be protected with a thin film of borate of lead having a little oxide of copper dissolved in it, and having also suspended in it bright scales of precipitated platinum. A red heat is employed to fuse the composition, which is either applied with a brush or employed as is either applied with a brush or employed as a bath, in which small articles may be dipped. Its effect is to cover the iron with a thin glassy coating of a bright gray tint, not far removed from that of polished iron itself, and unaffected by sewer gases, dilute acids and alkalis and the heat of a kitchen fire. Modifications of the composition give the means of imparting different colors to the coating and these are as easy of amplicathe coating, and these are as easy of applica-tion as the platinum gray just mentioned. Jannasch and Rump have succeeded in

VANILLIN FROM GUM BENZOIN OF SIAM, The finely divided gum is intimately mixed with half its weight of calcium hydrate in with half its weight of calcium hydrate in an iron vessel, water being added to make a stiff paste. Ten or twelve times the quan-tity of boiling water is added, with con-tinued stirring; the solution is freed from benzoic acid by acidifying it, and the acid filtrate is extracted with ether. On evapo-ration of the ether, impure vanillin is left. After recrystallization from water it is soluble in ether, alcohol, chloroform, glacial acetic acid, less so in cold benzine lizing from all in prismatic crystals. The vanillin se made has the odor and the taste of vanilla.

A German contemporary publishes the following data on the

DEPRECIATION OF COAL BY STORAGE. A case having come before the Bohemian courts, it was found that bituminous coal stored 12 months depreciated as follows
English Peases West coal suffered no de 1. English Feases west coar sanfered in de-preciation. 2. Ibbenbueren, Westphalian coal lost 1.4 per cent. in weight, 6 per cent. in calorific value and made 4.6 per cent. less of coke. 3. Dortmund coal lost 2.6 per cent. in calorific value and made 2.1 per cent. less of coke. 4. Gelsen Kirchen coal 0.4 per cent. loss of weight, 0.6 per cent. loss of calorific value and 2.1 loss of yield of coke. 5. Borgloh coal respectively 2.6 and 3.5 per cent. Experts have testified that a 0.5 per cent. Experts have testified that a loss of 2 per cent. in transportation by cars

was not extraordinary for bituminous coals.

Mr. Perrett has invented a FTRNACE FOR BURNING FUEL DUST which is successfully in use for evaporating liquids and for heating apparatus. It consists of a cubical chamber containing a eries of fire-brick shelves, one above other, upon which the fuel is spread, and is gradually consumed. The chamber is 3.28 feet by 6 feet by 4.10. There are four feet by 6 feet by 4.10. There are four shelves, each 5 feet long, being 1 foot shorter than the furnace chamber. They reach rom the front and the back alternately. and the fuel may be lowered from one to another successively. The furnace is in the first place raised to a red heat by burning wood on all the shelves, as well as in the ash-pit at the bottom; then all the shelves eceive a first charge of the fuel. At the

# THE IMPORTANT DECISION.

We do not purpose to enter into a newspaper controversy with the combination of firms which is contesting our patents. We have simply announced in these columns that his Honor, Judge Wheeler, has decided that the stove known as the "Hecla" is an infringement of the design patent on the "Argand," granted to us

- 1. For the Form and Outline.
- 2. For the Ornamentation.
- 3. For the Combination of the Form, Outline and Ornamentation.

Whether this decision will be confirmed or dismissed by the Supreme Court of the United States, should the case ever reach that tribunal, we do not presume to predict. It is sufficient for the present that the stub born fact remains that our patent has been sustained by the Circuit Court; that an injunction has been issued and an accounting has been ordered, and that the preliminary steps for the same have been taken. Whether or not "the victory is a barren one" we do not presume to decide. The Combination appears to feel warranted in stating positively that it is so. We remember that this organization, formed to defeat all patents but its own, also stated with equal assurance that the suit against the "Hecla" would be decided

This Combination has also assumed to decide that other alleged infringing stoves "are placed beyond the scope and reach of this decision. The courts will soon be asked to decide this question also. We shall not attempt to anticipate the result. It is sufficient for the present to repeat the notice heretofore given at various times, that we consider most of the stoves that have been modelled from the 'Argand" to infringe our design patent, and that if the courts shall so judge, we shall hold all persons who have manufactured or sold any of these stoves responsible to us for the profits and damages.

The "anti-clinker" controversy which the Combination has introduced into its communication has no relation to the question now at issue; but as it has been introduced we will briefly give a statement

In March, 1873, we issued a circular to the trade, stating that we were the owners of certain patents for anti-clinker" devices, dated in 1864, 1866, 1867 and 1869, and offering without restriction the use of the same, upon an agreement to pay a small royalty. This offer was repeated in special circulars bearing date July 1, 1874; January 8, 1875; January 18, 1876; February 15, 1877, and also in every catalogue that we have published since 1873.

Notwithstanding our liberal offers, for we did not desire to monopolize the use of these valuable patents, which covered the foundation and also most of the improvements of the "anti-clinker" devices, these firms in combination appeared to consider it for their interest not only to adopt the form and outline, and in some cases the ornamentation of our "Argand" stove, but also to embody our "anti-clinker" devices, without our consent or any payment therefor, though two of the trustees who signed the communication that appeared in The Metal Worker of 2d inst. have said at different times to one of us in substance, "We must make a stove like the 'Argand' or abandon that portion of our trade. If we have to pay in the end, why we must." And so they went on and boldly took our "Argands" into their pattern shops to use as models, and produced stoves bearing so close a resemblance to ours as to mislead not only ordinary observers, but even stove dealers and experts, and then sent their agents through the country to visit our customers and solicit their trade for these stoves at prices of tartrate of copper and alkali.

Dr. Clarence Blake, of Boston, in his exbelow those paid for the "Argand." They could well afford to do this, having incurred no expense for patents or experiments, but simply by availing themselves without cost of our outlays and labors. After the leading houses had taken this defiant step againt our rights, most of the smaller ones followed their example. We have been powerless for the time, except to vigorously and systematically protest against this injustice. It must be remembered that during all this time the members of this Combination were defying and treating with contempt what they now term "the anti-clinker features of the Spear invention, indispensable to modern magazine stoves." They boldly gave out that no patent on a stove was good for anything, and that they should use what

In 1873 we made the inventions and improvements upon the "anti-clinker" devices covered by our patents of previous dates, which inventions and improvements culminated in the "Argand." We applied for letters patent upon the same, which were about being issued when the "interference" was declared by the Patent Commissioner, and the President of the Detroit Stove Works, availing himself of what seemed to him an opportunity, commenced his war upon us. He had carried it on unaided until a bill for costs, &c., amountan opportunity, commenced his war upon us. He had carried it on unaided until a bill for costs, &c., amounting to some \$12,000 had rolled up against his company. He then visited Albany, and after proposing to us to join him in a league, "offensive and defensive," against the rest of the trade, which we declined to do, induced sixteen other firms to embark in one of the most extraordinary combinations that respectable business men were ever engaged in. This Combination in the most handsome manner assumed from the Detroit Company its liabilities and labors in the management of the interference case, and continued the contest at a further cost of some \$20,000 to \$30,000. They did not meet with the success their generosity merited, but were in the end utterly defeated. They said during the progress of that case, just as they say now, that we should not succeed.

This Combination was formed November 18, 1874. The Spear pertons were purchased by it November 18, 1874. The Spear pertons were proposing to us to ducing, was done by this curved membrane, and the sharper overtones disappeared, and the sharper overtones disappeared, and the sharper overtones ducing, was done by this curved membrane, and the sharper overtones disappeared, and the sharper overtones disappeared, and the sharper overtones ducing, was done by this curved membrane, and the sharper overtones ducing, was done by the sharper overtones ducing to us to be such as the sharper overtones ducing, was done by the sharper overtones ducing to us to be sharper overtones ducing to

This Combination was formed November 18, 1874. The Spear patents were purchased by it November to the center of a membrane, the curve of 16, 1876. These patents, or such of them as had any reference to the "anti-clinker" devices, were issued in which enables it to reproduce a large range of overtones, its tension serving as a country of overtones, Suits were commenced by each party against the other early in 1877, and some progress has been made in taking Suits were commenced by each party against the other early in 1877, and some progress has been made in taking the testimony; in due time the causes will be presented for the consideration of the courts, and when they have been decided, the parties and the public will know to whom the "anti-clinker" devices belong. As the Combination at the groove in the phonograph cylinder, when covered with the first timfoil, became a resonator for the high secretation of the courts, and when they have been decided, the parties and the public will know to whom the "anti-clinker" devices belong. As the Combination has already in two cases made positive statements in advance as to what the decisions of the courts would be, has already in two cases made positive statements in advance as to what the decisions of the courts would be, neither of which statements have been verified, the present equally positive statement as to what the decision of the quality of the voice. By stretching a thin layer of rubber tissue over the cylinder, this resonating effect was abolished, patents are dated in 1864, 1866, 1867 and 1869, while theirs is dated in 1870.

Dr. W. Reigler, of London, announces patents are dated in 1864, 1866, 1867 and 1869, while theirs is dated in 1870.

The testimony already taken shows that Spear had one of our stoves (patented in 1867) for some time in operation in his store, and that he agreed with the patentee to take a license and manufacture stoves under the ame, but that instead thereof he went on and made a stove embodying the "anti-clinker" devices shown in same, but that instead thereof he went on and made a stove embodying the "anti-clinker" devices shown in this patent, adding thereto some immaterial so-called inventions of his own, which he subsequently patented. This is the foundation, and all the foundation, of the "Spear inventions."

In conclusion, we will simply repeat our former statements, that we believe we are the sole owners of the foundation patents for the "anti-clinker" devices, and for valuable improvements on the same, and should the courts sustain this belief, we shall hold all persons who have infringed or may infringe our rights, either in the manufacture or sale of stoves embodying these devices, responsible to us for the profits and damages. We shall also hold this Combination responsible to In conclusion, we will simply repeat our former statements, that we believe we are the sole us for any losses or damages that we may suffer by reason of the warnings against the purchase of the purchase

PERRY

proper time the fuel is lowered by means of suitable fire-irons, introduced through doorways in the front of the furnace, from each shelf to the shelf below it, on which it is evenly spread; and the uppermost shelf, now empty, receives a fresh charge of fuel. This process of arranging and charging the furnace is repeated at intervals of twenty-four, twelve, or six hours, according to the strength of the heat required.

Several experiments have been made by Kazanoff on

#### GOLD AMALGAMS.

It was found that apparently fluid gold amalgams, containing different quantities of gold at ordinary temperatures, on being squeezed through thin leather bags, give as filtrates amalgams containing the same amount of gold; during these experiments amalgams of different concentrations gave filtrates containing 0.126 per cent. of gold. These facts show that amalgams filtered through thin leather are similar to solutions of solids in water, the concentration of solids in water, the concentration of which chiefly depends on the temperature of

Ph. de Clermont and J. Fommel have at empted to prove that

MAGNESIA AS AN ANTIDOTE AGAINST ARSENI-OUS ACID

is not reliable, as has hitherto been believed. In the Comptes Rendus they give the results of some chemical investigations showing that a soluble salt may be formed. P. Hautefeuille states that

# may be obtained by heating silica and tung-state of potash for several days to a temperature of 1400 degrees. If heated to 1800 degrees, crystals of tridimite are obtained

after a few hours.
In Dingler's Pol. Jour. Prof. W. Ritter of Riga describes a

#### NEW WIRE-TESTING MACHINE

for automatically registering tensile strain and elongation. The wire to be tested is held by two clamps, which are drawn apart by a screw and hand wheel attached to one. The other acts upon a long lever, to the longer arm of which a fine chain is attached, which is so connected with a weight that its tension increases in proportion to the movement of the lever. A rod which carries a tension increases in proportion to the move-ment of the lever. A rod which carries a pencil is attached to the lever, and by a spring the pencil is made to travel along a straight guide-piece. The paper upon which the line is drawn is moved perpendicularly to the direction of the wire through the agency of cog-wheels and a toothed rod. The ratio of the two movements is so chosen that a curve is the result, the abscissas of which, if multiplied by ten, yield the elongation of the wire, while the ordinates register the tensile strain.

The Metallarbeiter gives the following

RECIPE FOR GIVING BRIGHT COLORS TO ZINC. The objects to be colored are first thoroughly brightened by rubbing with sand and mois-The objects to be colored are instanoroughly brightened by rubbing with sand and moistening with hydrochloric acid, which is rapidly washed off with water. In order to be successful it is necessary to use zinc free from lead. The colors are produced according to necessity by dipping the object for a certain varying length of time in a solution

periments with

### THE PHONOGRAPH DIAPHRAGM.

vas led to believe that if this were shaped like the drum membrane of the human ear, it would give improved phonographic utter-ance. He arrived at this conclusion from finding that flat disks gave too great a prom-inence to certain heavier overtones of the voice to which they respond, and hence fal-sified the timbre of the voice in reproducing it. By forming the phonograph diaphragm it. By forming the phonograph diaphragm into a flat trumpet-shape (with a funnel section) and fixing the embossing style into the cusp, it was found that the lighter overtones were faithfully reproduced by it, while the sharper exaggerated overtones recorded by the flat disk were cut off. When the embossing, as well as the reproducing, was done by this curved membrane, the sharper overtones disappeared, and the the discovery of

A SUBSTITUTE FOR GUTTA PERCHA known as Rolata or Bolata gum. He says: It is inferior in the extent of its uses to South America. The operation of winning the gum is similar in every respect to that melting, higher than gutta percha. It is completely soluble in benzole and carbon by sulphide in the cold. It becomes strongly electrified by friction, and is a better non-conductor of heat and electricity than gutta percha, and may therefore be successfully ed for electrical and telegraphic uses.

rth's Best English Cast Steel



# FAMILY GRIND STONE.

To meet a long existing and often expressed need we have made a Grind Stone and Polishing Wheel for grinding carving knives, polishing table cutlery, &c.

The Machine runs by foot power, is thirty-two inches high, and weighs eighteen pounds. The Stone is eight inches in diameter, one and one-half inches thick, and of the best quality. The Emery Wheel is ten inches in diameter and one inch thick. It is fastened to the arbor by a thumb screw, and is only put on when wanted for use. It is a very well made and perfect machine. Price, \$2.50.

# MILLERS FALLS CO.,

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M.H.JONES&CO.

COHOES N.

Established in 1839

NOVEMBER 10, 1863, FEBRUARY 23, 1864, REISSUED JUNE 1, 1869, IMPROVED AUG. 1, 1877.

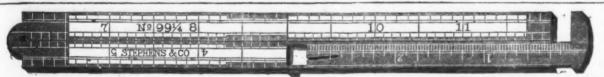
CHAMPION

The back thrust when in use borne by the SHANK instead of the Handle. None genuine unless stamped "L. COES & CO."

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tles graduated in foreign measure to order.

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Novelty and Excelsior Clothes Wringers. Defiance Metallic Planes,

> Spoke Shaves, Try Squares, etc., Novelty Carpet Sweepers.

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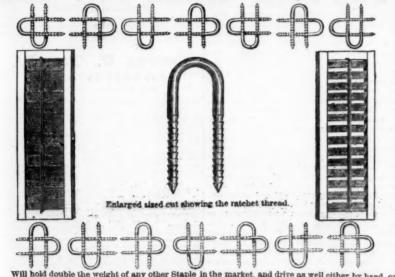
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Brass Hooks for Jewelers' Cases, Zinc and Iron Hinges, Turn Buttons, Thumb Springs, Book Clasps, and Fancy Metal Work of all kinds. OFFICE AND WORKS: Nos. 63 & 65 Elizabeth Street, New York.

Patent Improved Cone Pointed, Ratchet Thread, Steel Wire BLIND STAPLES.



J. LLOYD HAIGH,

81 John Street, New York,

# NATIONAL Horse Nail Co.

FINISHED

(BRIGHT OR BLUED)



These nails are made of the best brands of NOR-WAY IRON, and are guaranteed to be equal to

NATIONAL HORSE NAIL CO., VERCENNES, VT.

HORACE DURRIE & CO., Agents, No. 97 Chambers St., New York

**PUTNAM'S** 

Horse Shoe Nails.



PUTNAM NAIL CO., BOSTON.

# ANVIL NAIL CO.

We desire to call the attention of the trade to

# Steel Horse Shoe Nails,

made from metal prepared in the Martin-Siemen Furnace by our patent process, which produces a nail having all the requisites for a

PERFECT HORSE SHOE NAIL.

The well-imown desirable properties of a perfect nail are, that the POINT should be sharp, the SHANK stiff, to drive without crippling under the hammer sorr enough to clinch readily, while sufficiently tough to avoid all danger from the "drawing the clinch" or breaking the neck under the head.

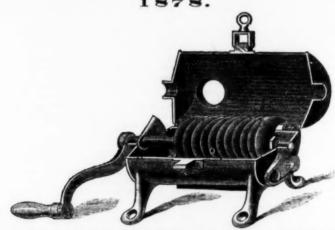
These properties we claim for the

"ANVIL HORSE NAILS."

In the process of manufacture the metal is com pressed under the head, which gives the nail great strength where it is required (between the shoe and hoof), and the cold rolling gives it a stiffness attained in no other way, while the quality of the metal used insures a clinch and point unsurpassed by any nail ever offered in the market. Samples and prices sent on application

ANVIL NAIL CO., 4 65, 67 and 69 Washington St., New York,





After many careful tests and experiments, the PENNSYLVANIA MEAT CUTTER is ket with the fullest confidence of its superiority. It cuts the meat rapidly and is coarse or fine. The knives are the best quality cast steel, tempered and harde from the shaft for the purpose of grinding, or can be sharpened if necessary by without being taken from the shaft. The comb (below the shaft and cutters) is mathis comb the knives pass and the meat entirely cut. At the price these are plathey can reach the consumer at a price that must guarantee popularity.

LLOYD, SUPPLEE & WALTON, No. 625 Market Street, PHILADELPHIA.

# THE "NEW" CROWN Made from the best of Norway Iron. The only hot forged machine made Horse Shoe Nail in the world that is not sheared or cut on the point. Warranted never to split or silver in the origing, and to hold the shoe longer than any other. Christmas Tree Holder



is offered to the public as a decided improvement upon last year's style, in the hope of meeting with a largely increased demand during the present season.

The usefulness of this article is obvious to anyone who has tried to arrange blocks, boxes or other appliances for holding Christmas Trees.

This Holder is so constructed that it will firmly clamp and hold any size tree under three inches diameter. The legs are placed in the sockets and fastened by the small thumb screws; the ring nut is turned downward, whereby the clamps are thrown outward. The tree is then set in the holder, and the ring nut turned upwards until the clamps have a sufficiently tight hold. If desirable, the holder be fastened to the floor, &c., by means of small tacks and sorews. Should the tree shrink and become loose in the holder, a slight turn upwards of the ring nut will tighten Price, \$9.00 per dozen.

MANUFACTURED ONLY BY

THE AMERICAN MACHINE COMPANY, Office and Factory, 1916 to 1924 N. 4th Street, Philadelphia.

# THE PARIS EXPOSITION.

RECENT EVENTS OF INTEREST.

(From our Special Correspondents.)

THE IRON AGE,

B. 3, American Section Exposition Universelle,

Pans. Oct. 29, 1878.

With the distribution of prizes at the
Palais de l'Industrie, the last spark of interest in this exhibition burned out. Though the ceremony itself, so far as the formal proceedings went, was but a monotonous dumb show, the affair was a grand and brilliant one, and quite worthy of the occasion. Twenty thousand people under a single roof is an inspiring sight at any time, how much more so when they appear in all the richness of magnificent dress, with all that the decorator's art can devise to make the surdecorator's art can devise to make the surroundings gorgeous and festal. Considering the number of people packed beneath this single roof, the quiet and order preserved was remarkable. After having secured a ticket of admission from your commission, which you could do provided you were entitled to it because you had received a grand prize or a gold medal, or because ou were a juryman, a journalist, or a general," it was not difficult to find your eat. Two and one-half hours were allowed for the ingress, but it must be remembered for the ingress, but it must be remembered that very few ever go early to a performance, and that therefore a large part of the guests to the fête arrived during the last hour. But accommodation was ample, as there are 19 doors leading into the Palais de l'Industrie. It was explicitly stated on the invitations that men must appear in full there are 19 doors teading new that all lindustrie. It was explicitly stated on the invitations that men must appear in full dress with regulation claw-hammer, and the ladies in evening toilet—all of which meant, put on the best clothes possible and let your ladies outshine the rainbow. Flags and national escutcheons formed the major part of the decorations of the nave, which as one entered seemed to be bathed in red and crimson, as the floor had been covered and crimson, as the floor had been covered with a warm red carpet and the seats and benches with an upholstery stuff of the same bright color. Crimson hangings with gold trimmings divided the galleries at the side into boxes, in each of which magnificently dressed occupants chatted, criticised and looked happy. A good idea of the proportions and arrangements of the vast interior were obtainable from the press tribune on the left. It was from there, gossiping with the left. It was from there, gossiping with our American, French, German and Italian friends that we watched the various guests enter at the side aisle and march up the center and main way to the grand platform of honor. Brilliant indeed, for all the diplomatic bodies and royal guests having been requested to appear in official or military regalia, were resplendent in their uniforms and decorations. Men, soldierly men, whose faces were bronzed with a hundred battles, faces were bronzed with a hundred battles, carelessly, proudly, or ill at ease, as the case might be, strolled in to their seats on the grand estrade. At the opposite far-off end of the nave M. Ed. Colonnies' orchestra and chorus—1800, people—filled the hall with music. Festival hymns and grand marches made up the programme. Thus was the audience amused until I o'clock, when the cannon at the Invalides boomed and announced the moment of opening. cannon at the Invalides boomed and nounced the moment of opening.

The Senate and leading members of the House of Deputies immediately appeared at

the door of the waiting room and were ushered to their places among the favored ones. The salvo of artillery was yet firing and the orchestra performing triumphal music—the first deputations being seated and the passage clear—when the Marshal-President of the republic, without ado or a great flourish of trumpets, heading the grand cortege, took up the line of march for the ceremonial stand. He was in full uniform. The Prince of Wales, the Crown Prince of Denmark, the Prince Royal of Swaden, the Ex-King of Spain and many Sweden, the Ex-King of Spain and many other notables accompanied him. The sight was a royal one in more senses than one. Soon after the high dignitaries came the various national guards on duty at the Exhibivarious national guards on duty at the Exhibi-tion, who filed in proper line down the center aisle to the estrade. They were, of course, in full uniform. The Spanish troops led, followed by the Norwegian, the United States marines, the Italian, Austrian, &c. Our troops were the only ones which bore arms. Their marching was magnificent, arms. Their marching was magnitudent, and it was rapturously applauded. Following the troops, the entry of five negro envoys from Sénégal created a veritable sensation. They were father and four sons, and were blacker than the darkest shades of Erebus. riowing capes of the most gorgeous and ex-quisite fabric floated back from their shoul-ders as they walked, the cynosure of all eyes and the wonder of an audience repre-senting the civilized nations of the world. Then came nine groups, each composed of the members of the jury, the presidents and the secretaries of the class juries, the laureates of the grand diplomas of honor and grand prizes. These groups were the representatives from the exhibition of the fine arts, education, furniture, tissues, mining industries, machinery, alimentary products, agriculture and horticulture.

All quiet, the President arose and delivered his opening speech, a brief and comprehen-sive document. M. Teisserenc de Bort, Minister of Agriculture and Commerce, then in-flicted a long speech. He was followed by M. Berger, after which the recompenses for each nation were given to the Commissioners Gennation were given to the Commissioners General of the respective countries. Each, as he stepped upon the stage to receive in bulk the awards for his exhibitors, was cheered Mr. Owen (Great Britain) and Mr. McCormick (United States) being specially recognized by this kindly greeting. During all the talking no sound penetrated the vast nave. It was impossible to hear, though all recognitions to but the audience recemed. all were still; but the audience ceemed content to sit it out. The closing of the coremony was a simple one. The President and royal guests stepped down from the platform, passed by the guards and out into the waiting rooms to attend gala carriages that were to take them home; and with them went out the lamp of the dis-tribution, and, to many of the exhibitors,

officially announced," instead of "is semiofficially announced," as it was at the time
I wrote, but it is a small matter now, as The
Iron Age has been already informed that
the 10th is the day for the good-byes. A
general impression prevailed that a large
proportion of the foreign exhibitors, notably
those in the English and American sections, would not continue their displays after the first of the month. The various officials be-lieved that to be the case, and those of us who have been continually among the exhibitors judged from all the talk that any overtures to induce them to remain after October would be rejected. But now, astonishment of astonishments! a reactionary feeling has set in, and with all the caprice of the true Parisian our English and American friends are a good part of them convinced that a are a good part of them convinced that a matter of ten days more or less is a very small affair anyway. They might as well hold out a fortnight before they surrender. Many reasons have perhaps induced them to come to this wise conclusion. They knew that the railway would not be put down until the final day, and a realization that whatever reading is to be done before them. whatever packing is to be done before then must be accomplished at stated hours—prob-ably either at early morn or late in the afternoon—as regulations are issuing of such a nature as to prevent any interruption of continuous passage through the gal-leries, has perhaps also been an important factor in bringing about a change of mind. Then, self-interest asserts itself, and the larger houses awarded honors of the highest nature quietly observe that they are here and that every day longer they stay adver-tises their goods. Why should they go? The little concerns who have no awards and who, even if they were not here, would not be missed, profess to be determined on departing as soon after to-morrow as they departing as soon after to-morrow as they can get away. Even of these not many will go, for they have no leader. If there had been one or two houses of unquestioned position who had remained firm in the rumored decision that after the first the places in the Exhibition that knew them once would know them no more, the crowd that would have followed after would indeed have been formidable, for men are like sheep in this regard. Some of the Englishmen tried to get gard. Some of the Englishmen tried to get the Galloways to stop their engine on the first. If they had agreed to do it half of Great Britain's industrial show would have been carried off immediately. But the Gal-loways were far sighted. What did they say † Naturally, that they did not see why they should do such a thing. There was their engine, it was supplying power for the English machinery hall; it had gained a grand prize, and every day it stayed there with that cardinal announcement on it thou sands of people saw it, and read that Galloway & Son had gained a grand prize for their machine. Did they want a better advertisement? Not if they knew themselves. And so with Huntley & Palmer and Crosse & Blackwell. Their recompenses were not insignificant, and it was worth their time to Insignificant, and it was worth their time to remain and gain extended advertisement. The little people, as I have said, are discontented, but they will not move in a body before the general breaking up of the Exhibition. This much may be depended upon.

The sensation of the week has been the

appearance throughout the groups of various bright placards announcing that this man or that man had been awarded a prix, or a medal. It only took a day or two to reveal to us the negative current. These same cards soon began to stare at us with the bold word refuse written across the face. Silver medals were even refused, but the larger number of non-acceptances were of the lower recompenses, such as honorable men-This phase of the fair furnished rare to the multitude for several days. sport to the multitude for several days Firms obtained a great amount of adver Firms obtained a great amount of the tising at the expense of the juries. But it has come to an end. I just learn that a ukase from the office of the Commissioner-General and Dictator has instructed the police to have every such notice taken down. Not soon enough, however, to prevent the droll Charivari from sketching the exhibitor who, with indignation in his eye and wrath upon his manly brow, has written on his placard which says "Gold Medal" the words: "Refuse; I ought only to have been awarded a silver medal." And so the fire burns low. The jurymen in all the classes get anathemas right and left. Exhibitors who have no other way of expressing their belief in the incompetency of the judges, write letters. The following from a morning newspaper is convincing that all is not rose-colored in the functions of a judge. We might almost say concerning it that all is not gold that glitters in medals This lettor, addressed to the members of the jury in Class XLVII, is very spirituelle, the Figaro thinks :

"Gentlemen : You have asked me to give a lot for the national lottery. I do it with pleasure, and herewith offer you an object of art-a bronze medal that you inflicted upon me without examining my products.

"Receive, gentlemen, the assurance of

my perfect consideration. That lottery-that everlasting lottery The demand for tickets is unprecedented in the history of polite gambling. I don't know what million they are selling now. I have lost all run of it, but I believe it is the sighth or minth.

They tell me that yesterday the purchas ing committee bought four of the paintings in the United States Fine Arts Hall for the lottery. I cannot ascertain the price. The attendant tells me he has not yet added it

up! Fact.
You have undoubtedly received by telegraph a list of the decorations bestowed upon certain of the American exhibitors and officials. Gov. McCormick has been named Officer of the Legion of Honor, and one which we think he appreciates and will enjoy, if the United States government will allow. A perfect list of the awards is not yet obtainable. A book purporting to be correct was published by the French author-ities, but it is so fearfully inaccurate as to yet obtainable. the whole International Fair of 1878.

But a week or two more of this exhibition lities, but it is so fearfully inaccurate as to is left. Though the day of closing is so near be discarded by every foreign commissioner.

the Champ de Mars does not yet show any Now the French themselves have denounced signs of the approaching dissolution. Before I write of the fair it might be well for me to say in this connection that I see the types made me say in a previous letter that the extension to the 20th of November "stands officially announced," instead of "is semi-officially announced," instead of "is semi-officially announced," instead of "is semi-officially announced," and the result of the prize winners. They are not even sure of all who have won grand prizes. it, and promise another and a better one. They do not know at the headquarters of the United States anything like a complete They have received one grand prize for a person not known to the commission. There are but seven grand prizes to American exhibitors, as far as the commission are able to judge from the information obtainable. The whole thing is a hopeless muddle Mr. McCormick cannot give a complete list of awards, for he does not know them all. He is awaiting the action of the French authorities, who seem themselves to be equally lost in the recompense chaos. The management of everything concerning the premiums has been the one great failure of this Exhibition.

### INDUSTRIAL ITEMS.

MAINE

Wm. E. Stevens, of Portland, who is largely engaged in the manufacture of iron castings of every description, has two found-ries—one at Portland, in which he employs 8 hands, and the other at Boston, in which he gives employment to 22. When he commenced business 19 years ago he only employed one pair of hands, and those his own. In his Portland foundry he makes archi-tectural ironwork and builders' castings a prominent feature of his business, and in Boston he makes a specialty of plumbers ironware.

#### MASSACHUSETTS

Jerome Wheelock's steam engine works Worcester, have just shipped a pair of 500-horse power engines to the Peabody Mills, Newburyport. Mr. Wheelock also ships an engine to Japan this week. His works have been quite busy the past season, being ob-liged to run nights much of the time. Among the recent shipments are engines to the Mansfield Machine Works of Mansfield, O., to Damon & Almy, West Concord; Wal-lace & Sons, Ansonia; Cross & Tolles, Nas-hua; and the Meriden Malleable Iron Com-

pany.

It is reported that the manufacturers of the Brush electric lights have under contract for the Merrimac Mills at Lowell machine with 20 electric lights on a single

circuit, warranted to be steady and uniform.

The Geo. F. Blake Manufacturing Company, of Boston, have just completed one of pany, of Boston, have just completed one of their duplex pumping engines for the Wash-ington, D. C., Water Works. It is the largest pump of this kind which they have yet constructed, having a 16-inch highpressure cylinder, a 30-inch low-pressure 15-inch water cylinder and 25-inch stroke and they guarantee for it a capacity for de-livering 1,000,000 gallons of water to the hight of 133 feet in ten hours. The pumps of this character which the Blake Company are now building for town and city water works possess all the merits of the duplex system, with the additional advantage that, in the case of accident to one of the pumping apparatus, the other can be operated alone. The company have built quite a large number of these pumping engines for smaller Western cities, and they are just constructing two pair for the water works of Paris, Ill. The pump which has been completed for the Washington Water Works weighs sixteen tons. A pump of this kind and size working ten hours a day would be capable of delivering all the water required for a city of 25,000 to 30,000 inhabitants. ing apparatus, the other can be operated

### RHODE ISLAND.

The Rhode Island Locomotive Works, of Providence, have work enough on hand to employ a force of 500 men until the beginning of next year.

### CONNECTICUT.

The Kent Iron Company have blown in their furnace, which has been idle for some

At Winsted, work has again commenced at Thayer's scythe shop, and the T. C. Richings Hardware Company, owing to a surplus of orders, are running 13 hours a day.

### NEW JERSEY.

The Warren Foundry, Phillipsburg, is casting an average of 115 tons of iron pipe

every day.

Messrs. Tippett & Wood, Warren Boiler

Messrs. Tippett & wood, warren Boiler Works, Phillipsburg, have increased the number of men employed to the full capac-ity of the works, having received an additional number of orders for steam boilers.

### PENNSYLVANIA.

Henry Fulmer, proprietor of Keystone urnace, Easton, is making arrangements king arrangements Furnace, Easton, is making to start the furnace in blast.

One day last week nine canal boat loads of pig iron passed through Easton via Uhler's line for Wilmington and Baltimore, making a total of about 700 tons.

No. 2 blast furnace of the Reading Iron

Company, which went out of blast nearly two years ago, was to start up last week.
The report that the Neshannock Furnace

at New Castle, had blown in is without foundation. The furnace has not blown in, and will not for some time, as a new lining and boshes will have to be put in.

#### PITTSBURGH AND VICINITY. The stove foundry of Messrs. H. Anshutz

& Son, in Allegheny, was destroyed by fire to the extent of \$6000 one day last week.

Messrs. Wilson, Walker & Co. are putting in their works a new 3½ ton steam hammer. The hammer was made by Messrs. Morgan, Williams & Co., of Alliance, Ohio. It will

be used for heavy forgings.

A 550-pound special steam hammer is being put into the works of Messrs. H. M. Myers & Co., at Beaver Falls.

Anderson & Passavant have ordered a
Wellman patent hydraulic crane for their

new open-hearth plant. The management of the business of the Baldwin Carbon Bronze Company will here-after be under the direction of B. W. Bald-win, president, and John A. McGinley, secretary and treasurer.

Smith, Sutton & Co., Allegheny, are putting in two steam hammers—I ton and 31/2

Several receiving tanks are being erected sented, in which the English committee near Brilliant Station, A. V. R. R., by the urged their American brethren to adopt Standard Oil Company

#### OHIC

D. E. Saltonstall & Co., Toledo, have just ommenced the manufacture of Noteman's improved rotary force pump, at 150 Superior street. This pump is entirely of metal, and throws a stream from 60 to 80 feet with They are also manufacturing steam and power pumps and rotary engines on the same principle.

same principle.

Twenty-five men are now employed at the foundry and machine works of Booth, Miller & Co., Youngstown. This firm is now employed filling large orders for brick kiln castings of the Wingard patent for parties in the southern part of the State. They are also building the Copeland patent nail feeder, which has reached that state of perfection that nailers and manufacturers profection that nailers and manufacturers pro-nounce it perfect. We are informed that some 30 will be attached to nail machines at Youngstown, and 40 or more in Chicago as soon as arrangements can be made to have them built. They are also making castings for two immense lime kilns and railroad to

Messrs. Arms, Bell & Co., of Youngstown, manufacturers of nuts and washers, carriage tire, machine, bridge, plow and rail-road track bolts, also lag screws, are em-ploying about 30 hands. They are so crowded with orders that it has become necessary to put in more machinery. An necessary to put in more machinery. An addition 20 by 140 is now being built to accommodate this additional machinery. They have orders for all that they can do from now until the 1st of January for many of the articles they manufacture, and for the past two years they have run full capacity. They are at present making a bridge for the Morse Bridge Works. At present prospects are better than at any time since the pects are better than at any time since the panie of 1873.

The Youngstown Rolling Mill Company have been running their forge three turns of four heats for some time past, and will continue to do so this week for the reason that tinue to do so this week for the reason that its capacity is not equal to finishing capacity. There has been a little spurt in the market, which gives them all they can do just at present, owing to the limited capacity of their output. From present indications, however, the outlook is not encouraging couraging.

One of the Himrod furnaces at Youngs town is ranning on foundry iron, making about 60 tons per day. The other furnace is in good shape, ready to start up at any time when the orders warrant it.

Messrs. E. L. Harper & Co., agents of Longdale (Va.) Furnace. advise us that the furnace has blown out to repair the inwall. They have no iron unsold excepting a few carloads of mottled and white, and have orders booked ahead for delivery as soon as practicable.

# INDIANA.

Mr. G. W. Moore and J. H. Kenick of Indianapolis, have entered into a partner-ship under the name of Moore & Kenick, dealers in machinery, &c.

### Mining and Mineral Items.

### COAL.

The coal trade at Helena, Ala., is very

good just now.

The product of this region for the week ending Nov. 2, was 163,500 tons, as against 131,526 tons for the same week of last year. The total production for the week was 51,631 tons, against 423,043 tons for the corresponding week of last year—a decrease of 71,412 tons. The production for the year so far is 13,662,394 tons, against 16,439,569 tons for the corresponding period of last year—a decrease of 2,777,175 tons.—Potts—ville\_lowers. rille Journal.

IRON. The Wilson Iron Company at West Stock-bridge, Mass., are employing 100 men and sending their hematite ore to Hudson. They have mined from 40 to 80 tons a day for several years, and through the panic and hard times have never ceased operating on full time.

Messrs. E. G. Brooke, of Birdsboro, Pa are now taking out large quantities of ore from near the Falls of French Creek, this county. They have recently put on a double force, and are running their mined day and night. The ore is said to be extraordinarily rich in metal. The Messrs. Brooke tional number of orders for steam boilers.

Mr. Benjamin F. Clark, assignee of Oxford Iron Co., is offering for sale all personal property found on the many farms of the company. The sales extend through a hauling from the mines to Birdsboro, all

either four or six horse teams The Cheever ore beds, Port Henry, N. Y., are shipping considerable ore.

The desirability of establishing an inter-

national code of average adjustments for the guidance of shipping men is now being urged on the maritime bodies of this country by means of communications from an Eng-lish association. When a vessel is com-pelled, from stress of weather or other causes, to put into any port for repairs, the expense thus incurred is charged upon the consignees of the goods which comprise the cargo. When the latter is an assorted one cargo. When the latter is an assorted one the amount which each consignee has to pay is decided by an adjuster of values, and the consignee, before he can obtain his goods, is compelled to sign a bond agreeing to pay the amount charged against him by the adjuster. The latter is governed in his decision by certain rules which are known to shipping men as the "average" rules. These rules vary in different parts of the world, and the result is that an American, knowing nothing of the English rules, is unable to determine, when he receives a claim from abroad, whether the amount demanded

from abroad, whether the am is just or in excess of his rightful dues. For some years the European society known as the "Association for the Reform and Codifi-cation of International Law" endeavored to induce the European shippers to adopt one general code of rules, and their efforts have been crowned with success, a confer-ence of merchants having adopted what are known as the York-Hamburg rules. At a recent monthly meeting of the Captains and Vessel Owners' Association a communication containing a set of these rules was pre-

urged their American brethren to adopt them. The proposal met with some opposi-tion from Mr. Philip Fitzpatrick, who ex-pressed the opinion that American adjusters were able to attend to their own business without seeking advice from England, but ultimately the subject was referred to a special committee, who will have a month in which to frame their opinion on the pro

The American Exhibit in Mexico .-We learn through the office of the American Consulate in this city, that the proposed joint exhibit at the Mexican capital of the manufactured products of the United States and Mexico is definitely decided upon, and that a committee appointed under the direction of the government may be expected rection of the government may be expected soon to call personally upon our business men to secure their co-operation. Mr. Romero, formerly Minister to the United States, is particularly active in maturing plans for the erection of the necessary buildings and furthering the general objects of the Exposition, which is expected to take place about eight months hence. As to the Chicago delegation of 125 merchants who are now due in Mexico, Mr. Winsburgh, agent for M. De Zamacona, does not speak hopefully. He remarks that they visit only Vera Cruz and the capital, making a brief stay. The scheme was got up by parties in Chicago, who guarantee a trip out and back at an expense not to exceed \$1.50, and is characterized by too much gush. Mr. Winsburgh, who will himself leave for Mexico about Jan. I to make a business town in the interact of several leaves for tour in the interest of several large firms in New York, Philadelphia and Buffalo, remarks that the quantity of manufactured goods going out of late is quite surprising. In glassware, crockery, agricultural imple ments, &c., the shipments are mostly made at a handsome profit. The steamer City of Vera Cruz, the last out from this port, took Vera Cruz, the last out from this port, took 3076 packages to Vera Cruz, 4513 to Progreso, 340 to Campeche and 500 to Frontesa. There were about 75 shippers, of whom the heaviest are: M. Echeverria & Co., Wrieband Bros., Fred. Probst & Co., Meyer & Geiger, F. Alexandre & Sons, R. H. Allen & Co., A. B. Cohu, and Coombs, Crosby & Co. Statistics just compiled at the Bureau in Washington for the fiscal year 1877-8, show exports amounting to \$7,492,884, an inamounting to \$7,492,884, exports an increase of \$1,594,151 compared with the pre-vious year, while the imports reach \$13,-645,643, which is a decrease of \$1,798,935 ompared with the imports of 1877

The Business of the New York Elevated Railroad.—An official statement of the New York Elevated Railroad Company, completed only last evening, shows that in completed only last evening, shows that in the month of October last the number of passengers carried was 1,967,834, and that for the previous quarter the total was 2,075,107. The average passenger traffic per day for the last month was 63,478 ½. An additional section will be opened on the East Side, from Sixty-seventh street to Eighty-ninth st., during this month; another from Eighty-ninth street to Harlem in December, and about the 1st of January next another section on the West Side, from Fifty, ninth and about the 1st of January next another section on the West Side, from Fifty-ninth street to Eighty-third street, and also the branch from Chatham Square to the City Hall. The traffic of the Metropolitan road is estimated at 40,000 passengers per day, but the company decline to make any state-

Mr. Lewis Swift, the Rochester astronomer, who is a hardware merchant in that city, was standing in his shop the other day when several pillars with shelves attached, loaded with iron bars and other pieces of hardware, fell over. A blade of a grain cradle struck his hand, inflicting a painful though not dangerous wound. He was mass coming toward him or he must have been killed. Mr. Swift's friends have bought for him in Boston a telescope with a g-inch aperture, costing \$3000.—Evening Post.

# CHARCOAL.

SEVENTY BUSHELS OF CHARCOAL, Together with a net profit of \$7.00 per cord of wood, can be made by using

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CTES, offers the following regular specialties to the trade in the quantities and at the present the control of the state of the

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Barnett G. & H., 41 and 43 Richmond, Phila. 8 Chalmers & Murray, 76 Reade, N. Y. 8 Disston Henry & Sons, Phila. 8 Draner C. T. & C., Stor, Stor, N. 24	L
Everhart James M., Scranton, Pa. 38 Heller & Bros., Newark, N. J. 8 Johnson & Bro., I Commercial, Newark, N. J. 8	L
Moss F. W., 80 John, N. Y.  Files, Manujacturers of. Auburn File Works, 80 Chambers, N. Y.  Barnett G. & H., 44 and 43 Richmond, Phila.  Chalmers & Murray, 70 Reade, N. Y.  Boston Henry & Sons, Phila.  Leverhart James M., Scranton, Pa.  Sheller & Bros., Newark, N. J.  Johnson & Bro., 17 Commercial, Newark, N. J.  McCaffrey & Bro., 172 and 1734 N. 4th, Phila.  New American File Co., Pawtucket, R. I.  Nicholson File Co., Providence, R. I.  Paul Chas, B., Williamsburgh, N. Y.  Spencer I. R. & Son, Shefield England.	1
Spencer I. R. & Son, Sheffield England	2000
Spencer I. R. & Son, Shefield England.  Fire Brick, Mokers of.  Borgner & O'Brien, Philadelphia, Pa. 25  Brooklyn Clay Retort and Fire Brick Works, Van Dyke St., Brooklyn, N. Y. 25  Gardner Brothers, Pittsburgh. 25  Hall & Sons, Forth Amboy, N. J. 25  Hall & Sons, Burtalo, N. Y. 25  Kreischer B. & Son, Sorth A. 25  Kreischer B. & Son, Sorth A. 35  Newton & Co., Albany, N. Y. 25  Ostrander James & Son, Troy, N. Y. 25  Valentine M. D. & Bro., Woodbridge, N. 25  Watson John R., Perth Amboy, N. J. 25  Watson John R., Perth Amboy, N. J. 25  Flint and Emery Paper and Cloth.	M
Hall & Sons, Buffalo, N. Y	7
Newton & Co., Albany, N. Y	1
Baeder, Adamson & Co., 730 Market, Phila	. 27
Fluting Irons.	M
Vecas A. A., cs collin, N. Y	M
Forges, Portable, &c. Keystone Portable Forge Co., Philadelphia, Pa Empire Portable Forge Co., Cohoes, N. Y	M
Brown T. J. Rockwood, Tenn.	M
Foundry Facings. Paxson J. W. & Co., 514 Beach, Phila	M
Friction Clutch. Smith James & Co., 137 Market Philadelphia34 Firrnaces, Makers of. Richmond & Potts, 119 S. Fourth, Phila., Pa5	M
Carey & Moen, 234 W. 29th, N. Y	0 01 0
Lefferts Marshall, Jr., 90 Beekman, N. Y 4	M
Judson Junius & Son, Rochester, N. Y	M
Grindstones.  Wood H. S. & Co., 38 West, N. T	M
Guns, &c., Windmulier Louis & Roelker, 20 Reade, N. Y	M
Hundles, Makers of.	M
Hardware Commission Merchants.  Graham & Haines, 113 Chambers, N. Y. 36  Hundley & Hanks, 70 Reade, N. Y. 34  Samuel S. L. 57 Cedar, N. Y. 34  Tennia & Wilson, 81 Beekman, N. Y. 12  Walbridge G. B. & Co., 83 Reade, N. Y. 37	M
Samuel S. L. 57 Cedar, N. Y. 3 Tennis & Wilson, & Heekman, N. Y. 12 Walbridge G. B. & Co., 83 Reade, N. Y. 27	1
Hardware Dealers. Lane & Boone, 1227 Market, Phila	N
Boker Hermann & Co., 10t Duane, N. Y31 McCoy & Co., 124 and 126 Duane, N. Y	N
Windmulier Louis & Roelker, 20 Reade, N. Y. 16  Hardware Manufacturers. American Spiral Spring Butt Co., 82 Beekman, N. Y. 38 Clark & Co., Buffalo, N. Y. 24 Cowles Hardware Co., 10 Lionwille, Conn. 34 Enterprise Mig. Co., 7 Chambers, N. Y. 34 Cowles Hardware Co., Unionwille, Conn. 34 Enterprise Mig. Co., 74 Finale, 72 Lioyd, Supplee & Walton, 20 Market St., Phila., Pa.21 Maltoy, Curlias & Co., 34 Reade, N. Y. 12 Miller's Palls Mig. Co., 34 Chambers, N. Y. 21 R. Bliss Mig. Co., 42 Chambers, N. Y. 21 R. Bliss Mig. Co., 54 Chambers, N. Y. 33 Stanley Works, New Britain, Conn. 27 Union Mig. Co., 39 Chambers, N. Y. 38 Yan Wagoner & Williams, 52 Beekman, N. Y. 38 Hardware Specialities.	N
Coulter, Flagler & Co., 87 Chambers, N. Y. 37 Coulter, Flagler & Co., 87 Chambers, N. Y. 34 Cowles Hardware Co., Unionville, Conn 34 Enterprise Mgc Co., Phila. 34	-
Lloyd, Supplee & Walton, 625 Market St., Phila., Pa.31 Maitby, Curtiss & Co., 34 Reade, N. Y. Miller's Falls Mfg. Co., 74 Chambers, N. Y	N
Russell & Erwin Mfg. Co., New York. 10 Shepard Hardware Co., Buffalo, N. Y 3 Stanley Works, New Britain, Com. 27	N
Union Mfg. Co., 99 Chambers, N. Y	N
Hardware Specialities.  Many Francis 143 Chambers, N. Y	20.70.70
Covert E. & J. C., Farmer Village, N. Y.	0
Harness Snaps. Covert Mg. Co., Troy, N. Y. Hay Knives. Holt Hiram & Co., East Wilton, Me	P
Hinges. Lawis, Oliver & Phillips, Pittsburgh, Pa. 12 Stanley Works, New Britain, Conn. 27 Hoes.	P
The Sandusky Tool Co., Sandusky, O	
Chambers, Bering & Quinlan, Decatur, Ill	P
Hoisting Engines, Makers of, Crane Bros., Mfg. Co., Chicago, III. 9 Davis A. J. & Co., Newark, N. J. 37 Mundy J. S., Newark, N. J. 35 Hoisting Machines. 30	P
Hoisting Machines. Harrington Edwin & Son, Philadelphia, Pa31 Hooks (Cotton & Bale.) New York Handle & Mallet Works, 456 E. Houston12	P
Horse Clippers.	P
Anvii Nail Co., 65 Washington, N. Y	P
Boker, Bermann & Co., 1ct & 103 Buane, N. Y. 31 Horse Nalls, Makers of. Anvil Nall Co., 5c Washington, N. Y. 21 Ausable Horse Nail Co., 4warren. N. Y. 8 Globe Nail Co., Boston, Mass	P
Saranac Horse Nail Co., Plattsburg, N. Y	P
Horse Shoes, Makers of Boston Rolling Mills, 17 Batterymarch, Boston. 5 Burden Iron Works, Froy N. Frovidence, R. I. 4 Rhode Island Horse Shoe Co., Providence, R. I. 4 Schoenberger & Co., Pittaburgh, Pa. 4	P
McLean John, 300 Monroe, N. Y	P
Hydraulic Jacks. Dudgeon Richard, 4 Columbia, N. Y	P
Iron Brokers. Boynton Geo. A., 70 Wall, N. Y	P
Boynton Geo. A., 70 Wall, N. Y Gollins H. & Co., Pittsburgh, Pa. 4 Etting Edward J., Philadelphia, Pa. 5 Hatry & Friend, Pittsburgh, Pa. 4 Iron. Charconi. Warm or Cold Blast.	P
Iron, Charconi, Warm or Cold Blast, Quincy John W., 58 William, N. Y.  Iron Commission Merchants.  Adams Hugh W., 56 Pine, N. Y.  Lowe S. B., Chattanooga, Tenu.  5 Spooner & Collins, St. Louis, Mo.  5	P
Lowe S. B., Chattanooga, Tenu	
Iron Dealers. Abeel Brothers, 100 South, N. Y	H
Bonness, Botsford & Co., Youngstown, O.  Borden & Lovell, 70 and 71 West, N. Y.  Carmichael W. J., 130 and 132 Cedar, N. Y.  Cooney Daniel F., 88 Washington, N. Y.	B
Huerstei G., co Market Slip, N. Y. Harrison & Gilloon, 558 to 552 Water, N. Y. J. H. Jackson & Co., 206 and 206 Franklin, N. Y. Judson B. F., 427 and 400 Water	B
Kane C., Pittsburgh, Pa. Lundberg Gustaf, 36 Kilby, Boston, Mass. Ogden & Wallace, 85, 87, 89 and 21 Elm, M. Y.	B
Pierson & Co., 24 Broadway, N. Y. Puilmann J. Wesley, Philadelphia, P. Quincy John W., of William, N. Y. Richards D. W. & Co.	8
Pen, Pig, Importers of. Williamson James & Co., 69 Wall, N. Y. Iron Dealers. Abeel Brothers, 100 South, N. Y. Bonneil, Botsford & Co., Youngstown, 0. 5 Borden & Lovell, 70 and 7; West, N. Y. Conney Daniel F., 62 and 130 Cedar, N. Y. 4 Cooney Daniel F., 63 and 130 Cedar, N. Y. 4 Cooney Daniel F., 63 and 130 Cedar, N. Y. 4 Cooney Daniel F., 63 and 130 Cedar, N. Y. 4 Huerstel G., 50 Market Silp, Nr. 4 Harrison & Gilloon, 63 to 50 Water, N. Y. 4 Judson B. F., 45 and 459 Water, N. Y. 4 Judson B. F., 457 and 459 Water, N. Y. 4 Judson B. F., 457 and 459 Water, N. Y. 4 Judson B. F., 457 and 459 Water, N. Y. 4 Judson B. F., 457 and 459 Water, N. Y. 4 Judson B. F., 457 and 459 Water, N. Y. 4 Judson B. F., 457 and 459 Water, N. Y. 4 Judson B. Water, S. William, N. Y. 4 Judson J. Wesley Philodolopin, P. 5 Golden G. Water, N. Y. 5 Wallace W. H. & Co., 50 Mangin, S. J. 6 Wallace W. H. & Co., 40 Mangin, S. J. 6 Wallace W. H. & Co., 40 Mangin, S. J. 6 Wallace W. H. & Co., 40 Water, N. Y. 6 Wallace W. J. B. Sona, 86 and 20 West, N. Y. 6 Williamson James & Co., 69 Wall, N. Y. 6 Wallace A. R. & Sona, 86 and 20 West, N. Y. 6 Jeris & Kimball Philodolopis, P.	8
Williamson James & Co., 69 Wall, N. Y.  Whitney A. R., 58 Hudson, N. Y.  Iron. (Manufacturera' Agents.) Levis & Kimball, Philadelphia. Pa	8
Levis & Kimball, Philadelphia, Pa	8 8
Boston Rolling Mills, 17 Batterymarch, Boston 5 Bradley, Reis & Co., 22 Cliff, N. Y	1

Г	HE IRON AGE	
	Leonard John, 40 and 41 West, N. Y	-
15	Phoenix Iron Co., 410 Walnut, Philadelphia	
16	Rowland Wm. & Harvey, Philadelphia	
14	The Passaic Rolling Mill Co., Paterson, N. J	1
	wason Car and Foundry Co., Chattanooga, Tenn. 6 Wood Alan & Co., 519 Arch Philadelphia. 5 Zug & Co., Pittsburgh, Pa. 4	1
8	Wood W. D. Co. Pittsburgh, Pa 4	
35	Lalance & Grosjean Mfg. Co., 39 Beekman, N. Y 6 Ironware (Granite.) St. Louis Stamping Co., St. Louis, Mo	1
36	Lanterns, Manufacturers of.	1
11	Dietz R. E. (Tubular) 54 and 56 Fulton, N. Y	1
8008	North Selden G., Philadelphia	-
38	Shepard H. L. & Co., Cincinnati, O	1
000000		
33 8	Locks, Manufacturers of.  Bohannan Wilson, Broadway and Kosauth, Brook- lyn, E. D. 27  Conestogra Lock Works, Lancaster, Pa. 27  Conestogra Lock Works, Lancaster, Pa. 34  Hoyt Frod J., 73 Broadway, N. Y. 26  Romer & Co., Newark, N. J. 28  Smith & Egge Mg. Co., Bridgoport, Conn. 8  Yale Lock Mgs. Co., 53 Chambers, N. Y. 7  Machingry, Makers of.	
11	Romer & Co., Newark, N. J	1
25 25 25	Yale Look Mfg. Co., 32 Chambers, N. Y.  Machinery, Makere of.  Bilss & Williams. for Plymouth. Brooklyn.  Flanders L. E., 1034 Hamilton, Phila.  12  Garvin E. E. & Co., 190 Center, N. Y.  Mohawk & Hudson Mfg. Co., Waterford, N. Y.  Miles Tool Works, Hamilton, Co., Waterford, N. Y.  Fittelough Mfg. Co., Pittsburgh, Pa.  7 Fratt & Whitney Co., Hartford, Conn.  12  Sellers Wm. & Co., too Hamilton, Philadelphis.  7 The Bullard Mshine Co., 12 Dev. N. Y.  16  The Stiles & Faker Frees Co., Middletown, Ct.  37  Wetherell Robert & Ce., Chester, Pa.  37  Machinery (Foot Powers).	1
25	Mohawk & Hudson Mfg. Co., Waterford, N. Y	
25 25 25	Pittsburgh Mg. Co., Pittsburgh, Pa	
25	The Bullard Machine Co., 14 Dev. N. Y. 16 The Stiles & Paker Press Co., Middletown, Ct. 37 Wetherell Robert & Co., Chester, Pa.	1
6	Little Chas. E. so Fulton N V	1
3 21	Machine Screws, Makers of. Lyon & Fellows Mfg. Co., Williamsburg, N. Y32 Machinists' Tools, Makers of. Blaisdell P. & Co., Worcester, Mass	
6	Balsdell P. & Co., Worcester, Mass	1
13	Mallets. N. Y. Handle and Mallet Works, 456 E. Houston12	
6	Mensuring Tapes. Eddy Geo. M. & Co., 353 Classon Ave., Brooklyn, N.Y. 9 Meat Chopping Machinery.	
6	Meat Chopping Machinery. Murray Iron Works, Burlington, Iowa	
5	Mctal Dealers and Brokers.  Dickerson, Van Duson & Co., 29 and 31 Cliff. N. Y 2 Phelps, Dodge & Co., Cliff, bet. John & Fulton, N. Y. 2 Purves A. & Son, cor. South and Penn, Phila	
3 2	Quincy J. W., 98 William, N. Y.       35         Sellew R. &. Co., St. Louis, Mo.       2         Starr John, Halifax, Nova Scotia       34	
4	Ironolad Manufacturing Co., Brooklyn, N. Y31	
37	Metallurgists. Britton J. Biodgett, 339 Walnut, Philadelphia 5 Mica.	
31	Chester Mica & Porcelain Co., 87 Liberty, N. Y38  Mill Gearing. Poole & Hunt, Baltimore	
16	Miners' Candles, Makers of. James Boyd's Sons, 10 and 12 Franklin, N. Y	
30	Mineral Lands, Dealer in. Hoskins W. A., Chattanooga, Tenn	
34	Models. Burrows Wm., 99 Fulton, N. Y	
34	Mouse Traps.  Diets R. E., 54 and 56 Fuiton, N. Y	ľ
16	Natis.	
27	Schoenberger & Co., Pittsburgh, Pa	
31 11 16	Nail Machinery, Coyne & Hatry, Pittsburgh, Pa	
38 37 34	Nickel Platers, Hariman John, 37/4 N. Seventh, Philadelphia	
34 34 23 21	Condit, Hanson & Van Winkle, Newark, N. J	
30	Rowland Wm. & Harvey, Frankford, Philadelphia.38  Note Broker. Gallaudet P. W., 3 and 5 Wall, N. Y4	
3 27	Nut Tapping Machines.	
38	Nuts, Holis, etc., Makers of.  Haskell W. H. & Co., Pawtucket, R. I	
11 22 27 8	Shelton Co., Birmingham, Conn. Standard Nut Co., Fittsburgh, Pa. 6 Sternbergh J. H., Reading, Pa. 38	
35	Lester Oil Co., &r Maiden Lane, N. Y	
	Oil Stones. Boyd & Chase, 107th and Harlem River, N. Y31 Packing (Steam.) Symonds & Co., Philadelphia	
6	Lewis, Dalzell & Co., Pittsburgh, Pa.	١
6	Patent Sollcitors. Howson & Son, Phila, and Washington, D. C	l
30	Stetson Thomas D., 23 Murray, N. Y. Welderheim John & Co., 110 South 4th, Phila 7 Phosphor Bronze.	l
9 37 30	Phospher Bronze, Phosphor Bronze Smelting Co., 2038 Washington ave, Philadelphia	
30	Pierson & Co., 24 Broadway, N. Y	
12	Pancoast & Maule, 227 Pear, Philadelphia	
31	Pipe, Water and Gas, Makers of. McNeals & Archer, Burlington, N. J. 6 Wood R. D. & Co., 400 Chestaut, Philadelphia	
35	Plane Irons, Manufacturers of. Buck Bros., Mülbury, Mass	١
35 31	Planes, Manufacturers of. Balley Wringing Machine Co., 99 Chambers, N. Y. 21 D. R. Barton Tool Co., Rochester, N. Y	١
13	Hall, Elton & Co., 75 Chambers, N. Y	١
9 4	Everhart Jas. M., Soranton, Pa	ı
33	Pocket Knives, Boker Hermann & Co., tot Duane, N. Y	ı
30	Mohawk & Hudson Mfg. Co., Waterford, N. Y	١
-37	The Stiles & Parker Press Co., Middletown, Conn. 37 Printers. E. S. Dodge Printing Co. of Chambers N. V.	١
. 5	Pulleys. Friction. Penfield Block Works, Lockport, N. V	۱
. 4	The Stiles & Parker Press Co., Bladdetown, Conn. 37 Printers.  E. S. Dodge Printing Co., 95 Chambers, N. Y	1
6 . 5	Sprague Wm. & Co., Philadelphia	
. 4	Union Mfg. Co., 98 Chambers, N. Y	
. 4	The Edgar Thomson Steel Co., 57 Broadway, N. Y. 31 Railway, Car and Locometive Forgings. Wilson, Walker & Co., Pittsburgh, Pa.	1
4 4		١
4	Rivets. Grundy, Geo. C., 165 Greenwich, N. Y. 22 Old Colony Rivet Works, Kingston, Mass. 11 Townsend W. P. & Co., Pittsburgh, Pa. 12 Rolls (Chilled).	
	Townsend W. P. & Co., Pittsburgh, Ps	
946	Stephens & Co., Riverton, Cohn	1
. 4	Sad From Machine Co., Philadelphia	
. 4	Sash Locks	
. 5	Sansage Stuffers. Silver & Deming Mfg Co., Salem, O	1

calca Manufactarana at	
rales. Manufacturers of. Howe Scale Co., Rutiand, Vt	Stove Pipe. Chicago Stamping Co Stove Repairs. Motzner W. C., Chicago, Ill. Stove Trucks. Tucket Alarm Till Mfg. Co., Indianapolis, Ind
Chattillon John & Sons, or Cliff, N. V	Stove Reports
Riehle Bros., oth above Master, Phila32	Metzner W. C., Chicago, Dl.
Southwark Hardware Co., Philadelphia, Pa31	Stove Trucks.
Soutawark Hardware Co., Philadelphia, Pa. 31 Frews. Makers of. American Screw Co., Providence, R. I. 29 Miles F. S., sog Quarry, Phila. 12 Philadelphia Screw Co., Philadelphia, Pa. Russell & Erwin Mfg. Co., New York. 12 Frew Cutting Machinery.	Tucker Alarm Till Mfg. Co., Indianapolis, Ind
Miles F. S., 205 Quarry, Phila.	Tacks.
Philadelphia Screw Co., Philadelphia, Pa	Field A & Song Taunton Mass
Russell & Erwin Mfg. Co., New York	Grundy Geo, C., 165 Greenwich, N. V.
crew Cutting MacChnery, How Cutting MacChnery, Wiley Line Works, Buffalo, N. Y. Wiley Leon Works, Buffalo, N. Y. Wiley Leon Wiley Leon MacCharlett, Mass. 36 Perew Britan, Umproved Mackers of. Disaton Henry & Sons, Phila. 24 Croil Naws. 24	American Tack Co., Fairhaven, Mass. Field A. & Sons, Taunton, Mass. Grundy Geo. C., 165 Greenwich, N. Y. Shelton Co., Birmingham, Ct.
Wiley & Russell Mfg. Co. Greenfield Wass	Taps and Dies. Carpenter J. M., Pawtucket, R. I. Manning H. S. & Co., 111 Liberty, N. Y. Wiley & Russell, Greenfield, Mass.
Crew Drivers, (Improved) Makers of	Carpenter J. M., Pawtucket, R. I.
Disston Henry & Sons, Phila	Wiley & Russell Greenfield Wass
croll Saws.	Tin Plate. Importers of
Disaton Henry & Sons, Phila	Tin Plate. Importers of N. & G. Taylor Co, Philadelphia
cythe Stones.	Tin Plate, Manufacturers of. U. S. Iron and Tin Plate Co., Pittsburgh, Pa
Pike A. F., East Haverhill, N. H.	U. S. Iron and Tin Plate Co., Pittsburgh, Pa.
hovels, &c.	Trowels.
towiand B. & Co., Philadelphia	Bruce Geo. W., 1 Platt, New York
Sparks Thos. W. 121 Walnut Dhiladalphia	Trowels.  Bruce Geo. W., I Platt, New York  Try Squares, Bevels, &c. Makers of.  Diaston Henry & Sons, Phila.
Sparks Thos. W., 121 Wainut, Philadelphia	Disston Henry & Sons, Phila
Hildick A. H. & Co., 12 Warren, N. Y.	Tubes. Deaken Robt. T. & Co., 500 N. 12th., Phila Tube Expanders.
melting Works.	Deaken Robt. T. & Co., 500 N. 12th., Phila
neeking Tubes	Tube Expanders. Dudgeon Richard, 24 Columbia, N. Y Twist Drills. Makers of. Morse Twist Drill & Mach. Co., N. Bedford, Mass
Ostrander W. R. to Ann. N. V.	Twint Della Makera of
Peiter. Manning & Squier, 113 Liberty, N. Y. 2 Osgood F. & Co., Bergen Port, N. J. 2 pringe, Care & Worn and West State Co.	Morse Twist Drill & Mach. Co. N. Redford, Mass
Manning & Squier, 113 Liberty, N. V.	Inhotetowent Cooks
Osgood F. & Co., Bergen Port, N. J	Uphotsterers' Goods. Turner & Seymour Mig. Co. 81 Reade, N. Y Ludlow Valve Mig. Co., Troy N. Y Mohawk & Hudson Mig. Co. Waterford, N. Y
Prings.	Valves, Gas, Water and Steam,
Rowland Wm & Dogwood Frankford Thille	Ludlow Valve Mfg. Co., Troy N. Y
tamped and Jananned Tin Wave	Mohawk & Hudson Mfg. Co Waterford, N. Y
Haberman, F. 204 Pearl, N. Y.	Ventilators. Bracher Vontilator Co., 3 Park Row, N. Y
Shepard Sidney & Co., Buffalo, N. Y	
Osgood F. & Co., Bergen Port, N. J. prings. Carey & Moen, 34 W. 29th, N. Y. Carey & Moen, 34 W. 29th, N. Y. Rowland Wm. & Harvey, Frankford, Phila. 38 Lamped and Japanned Tin Ware. Haberman, F. 294 Pearl, N. Y	Athol Machine Co., Athol, Mass., Bailey Wringing Machine Co., oo Chambers, N. Y Millers Falls Co., '4 Chambers, N. Y Wells Bros., Greenfield, Mass.
Firmanich I C. & F. Dangele N. St.	Bailey Wringing Machine Co., 99 Chambers, N. Y
Leslie Boiler Works Jersey City N. T.	Millers Falls Co., 74 Chambers, N. Y
team Cookers.	Wells Bros., Greenfield, Mass
Hale Dr. Jos., 51 Washington, Boston, Mass12	Watchman's Time Detectors.
Dudgeen Blobers, dec., Makers of.	Weather String
Leam Pumpa Arg Manufacturers of	Watchman's Time Detectors. Buerk J. E., Boston, Mass. Weather Strips. Bracher Ventilator Co., 3 Park Row, N. Y
Loslie Boiler Works, Jersey City, N. J. 22 ceam Gookers.  Gam Gookers.  Loslie Boiler Works, Jersey City, N. J. 22 ceam Gookers.  Loslie Dr. Jos., 51 Washington. Boston, Mass. 12 ceam Hammers, &c., Makers of. ceam Campos. &c., Manufacturers of. Campon Bos. Esset St. N. S. 13 Campon Bos. L. S. Esset St. N. S. 13 Crane Bro. H. Water, Brooklyn, N. Y. 36 Crane Bro. H. Water, Brooklyn, N. Y. 37 Crane Bro. H. Water, Brooklyn, N. Y. 37 Kelly Win. E. E. Dr. Griego, Ill. N. Y. 37 Khowles Steam Pune Works, cy Liberty, N. Y. 37 McGowan, John H. & Co., Cincinnatt, O. 37 Valley Machine Co., Easthampton. Mass. 37 team Winder. Ramasy H. A. & Co., Baltimore, Md. 32 Leel Castings, Manufacturers of.	Wedges. Am. Sleigh and Carriage Iron Co., Boston Mass
Clayton Jas., 11 Water, Brooklyn, N. Y 3	Am. Sleigh and Carriage Iron Co., Boston Mass
Crane Bros. Mfg. Co., Chicago, Ill32	Wheelbarrows. Rodgers H. A., 19 John .N. Y.
Knowles Steem Purps Works as I there's W. W.	White Lead, Manufacturers of. Brooklyn White Lead Co., 89 Maiden Lane, N. Y. Colgate Robert & Co., 89 Pearl, N. Y. Jewest John T. & Broat, N. Front, N. H. Lewis John T. & Broat, S. Front, Phila, Pa.
McGowan John H. & Co. Cincinnett O.	Brooklyn White Lead Co. So Meiden Lane N. V.
Shultz M., Cincinnati, O30	Colgate Robert & Co., 287 Pearl, N. V.
Valley Machine Co., Easthampton. Mass37	Jewett John & Sons, 183 Front, N. Y
team Winder.	Lewis John T. & Bros., 231 S. Front, Phila., Pa
Ramsay H. A. & Co., Baltimore, Md32	window Sprinks, Makersol.
teel Castings, Manyacturers of. Choster Steel Castings Co., Evelina, Phila., Pa. 38 Euroka Cast Steel Co., Chester, Pa. Flagg Stanley G. & Co., 216 and 218 N. 3d, Phila. 38 Pittsburgh Steel Casting Co., Pittsburgh, Pa. 38	Hammond W. S., Lewisberry, Pa.  Wire, Manufacturers of. Cary & Moen, 24 W. 20th, N. Y. Gilbert & Bennett Mg. Co., 273 Fearl, N. Y. Haigh J. Lloyd, 81 John, N. Y. Harrison Wire Co., St. Louis, No. Howard & Morne, 48 Fulton, N. Y. Washburn & Moen Mg. Co., W. Mass Washburn & Moen Mg. Co., W. Jroester, Mass. Trenton Iron Co., Trenton, N. Y. Worcester Wire Co., Troy, N. Y. Worcester Wire Co., Worcester Mass.  Wire Drawing Machinery.
Eureka Cast Steel Co. Chester Pa38	Cary & Moon and W anth N V
Flagg Stanley G. & Co., 216 and 218 N ad Phile	Gilbert & Rennett Mfg. Co. 272 Pearl N. V
Pittsburgh Steel Casting Co., Pittsburgh, Pa	Haigh J. Lloyd, 81 John, N. Y.
teel Importers. 36 Carr J. & Riley, 82 John, N. Y. 30 Hobson Francis & Son, 97 John, N. Y. 30 Moss F. W., 85 John, N. Y. 30 Moss F. W., 85 John, N. Y. 40 Pierson & Co., 24 Broadway, N. Y. 40 McCoy & Co., 144 and 156 Duane, N. Y. 11 Wolff R. H. & Co., 15 Cliff, N. Y. 30 teel (Mushet Special). 30 Randall & Lone, 20 Ulyra, Roston Mar.	Harrison Wire Co., St. Louis, Mo
Carr J. & Riley, 82 John, N. Y	Howard & Morse, 45 Fulton, N. Y.
Hebson Francis & Son, 97 John, N. Y30	Washburn & Moon Mfg. Co. Worcester, Mass
Pierson & Co. of Broadway N. Y.	Trenton Iron Co., Trenton, N. J.
McCoy & Co., 134 and 136 Duane, N. Y	Troy Wire Co., Troy, N. Y
Wolff R. H. & Co., 16 Cliff, N. Y	Worcester Wire Co., Worcester Mass
reel (Mushet Special).	
Randall & Jones, to Oliver, Boston, Mass30	Wire Drawing Machinery. Adt John, New Haven, Ct
Randall & Jones, 10 Oliver, Boston, Mass.  teel Manufacturer, Albany & Rensselaer Iron & Steel Co., Troy, N. Y. 30 Milyals Steel Milyals Mil	Wire Gauges.
Midwale Steel Works Nicetown Phile De	Brown & Sharpe Mfg. Co., Providence, R. I
Miller, Metcalf & Parkin, Pittsburgh	Wire Goods, Manufacturers of.
Rowland Wm. & Harvey, Frankford, Phila	Gilbert & Bennett Mrg. Co. 273 Pearl, N. Y
Sanderson Bros., Steel Co., Syracuse, N. Y30	Wire Nails
Singer Nimick & Co., Pittsburgh, Pa30	Hassall William, 63 and 65 Elizabeth, N. V.
Spencer I. R. & Son. Sheffled Frederic	Wire Rope, Iron and steel, Makers of.
Standard Steel Works, Philadelphia, Pa	Haigh J. Loyd, & John, N. Y
Steel Restorative Works, 119 Greenwich av., N. Y .20	Hazard Mrg. Co., Wilkesbarre, Pa
The Edgar Thomson Steel Co., 57 Broadway, N. Y. 31	Wooden Ware
wardlow S. & C., Shemeld, England30	Adams F. F. & Co., Erie, Pa
deel Shutters.	Wrenches, Manufacturers of.
teel Spirel Springs Mountains	Bemis & Call Hdw. & Tool Co., Springfield, Mass
Cary & Moen, 224 W. 20th, N. Y.	Coes I. & Co. Worcester, Mass
Chatillon & Sons, or and og Cliff, N. Y.	Girard Wrench Mfg. Co. Girard Pa
tocks and Dies.	Rogers H. A., 10 John, N. Y.
Prantica II Co., Waterford, N. Y	Wringers.
Wiley & Russell Greenfield Wass	Adams F. F. & Co., Erie, Pa
toge fronware.	Railey Wringing Machine Co. on Chambers W.
Metal Stamping & Enameling Co., St. Louis, Mo.	Metropolitan Washing Machine Co., 52 Cortles
Wardlow S. & C., Sheffield, England	Act John, New Haven, Ct. Heald S. & Son, Barre, Mass Wire Gauges. Brown & Sharpe Mfg. Co., Providence, R. I. Wire Goods, Manufacturers of. Gilbert & Bennett Mfg. Co. 273 Pearl, N. Y. Oliver E., 106 and 108 Beekman st., N. Y. Wire Nails. Hassall William, 63 and 65 Elizabeth, N. Y. Wire Rope, Iron and Sieel, Makers of. Haigh J. Loyd, St John, N. Y. Hazard Mfg. Co., Wilkesbarre, Pa. Roebling's John A. Sons, Trenton, N. J. Wooden Ware, Adams F. F. & Co., Erie, Pa. Wrenches, Manufacturers of. Bomis & Call Hdw. & Tool Co., Springfield, Mas Coest L. & Co., Worcoster, Mass. Girard Wrench Mfg. Co., Girard, Pa. Rogers H. A. 19 John, N. Y. Wringers. Adams F. F. & Co., Erie, Pa. Alexander T. J., Boston, Mass. Bailey Wringing Machine Co., 93 Chambers, N. Metropolitan Washing Machine Co., 93 Cortian N. Y. Peerless Wringing Machine Co., 93 Cortian N. Y. Peerless Wringing Machine Co., 91 Chambers, N. The American Machine Co., Philadelphia.
Shepard Sidney & Co. Bugalo, 19 and 21 Cliff, N Y 9	Peerless Wringer Co., Cincinnati, O
27	The American Machine Co., Philadelphia

# ZUCKER & LEVETT, NICKEL PLATERS' SUPPLIES.

Estimates for Complete Outfits Furnished. 639 & 641 West 51st Street, New York.



THIRD and DAUPHIN Sts., PHILADELPHIA.



SPECIALTIES.

nterprise Patent Cold Handle Double Pointe SMOOTHING AND POLISHING IRONS, CHAMPION TOBACCO CUTTERS, PATENT MEASURING FAUCETS, SELF-WEIGHING CHEESE KNIVES,

THE ENTERPRISE (not the Russian) SAD IRON (Clad) Smoothing the Coast. SPECIALTIES. COFFEE, SPICE AND DRUG MILLS

SAUSAGE STUFFERS, FRUIT, LARD and JELLY PRESSES, CHAMPION DRIED BEEF SHAVERS. Coffee Roasters, Bung-Hole Borers,

### The Stamped Stove Pipe Elbow. HOGEN'S PATENT.

Stamped Elbow has neither Crimps, Cavities nor Angles which cause accumulations that rust or corrode the iron. STAMPED ELBOW CO., formerly Hogen Elsow Co..

OFFICE AND WORKS, Wason St, on Lake Shore, CLEVELAND, o

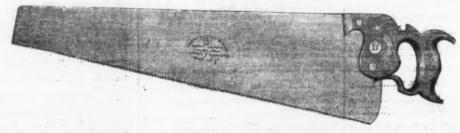
# Disston & Som

# KEYSTONE SAW, TOOL, STEEL AND FILE WORKS,

Front and Laurel Streets, Philadelphia.

Branch Works, Tacony, Philadelphia.

Branch House, Randolph & Market Streets, Chicago. Il!.



# NO. 7 DISSTON & SONS' CAST-STEEL WARRANTED, BEECH HANDLE.

The above cut represents the justly celebrated No. 7 Hand Saw, which was mainly instrumental in securing the wide reputation for Disston's Saws. It is the cheapest Saw upon which we put our own name, and none but the most skilled workmen take part in its manufacture. Our hold upon the trade depends chiefly upon maintaining the high standard of this Saw, which we are determined to do. Every Saw of this brand is fully warranted.



This Saw combines all the valuable improvements in Hand Saws that have been made by us of late. The first and most important improvement is the Hollow or Skew Back, the success of which can best be attested by the numbers sold. The peculiar shape of the butt or heel, coupled with the new method of fastening to the handle, gives a full stroke of the blade without fear of catching or hooking in the work; and as the handle is put further on the blade, you have a full stop at the proper point and a greater command over your saw, by reason of being two inches nearer the point, which must give more power. It is a nice hanging Saw, being light at the posts and ground thin on the back.

The Saw being let into the handle on a circle, has a perfect bearing, which, with the new screws, makes it stronger and almost impossible to work loose, and avoids the unsightly gap that is seen on the back of the old-style handle. All the above features are patented.

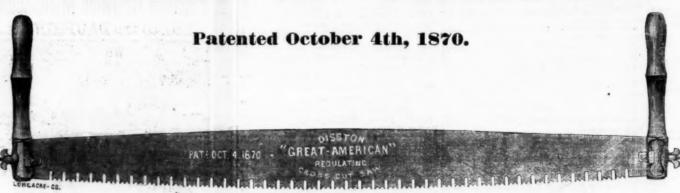


CENTENNIAL, No. 76.

The Centennial, No. 76, is a very popular Saw, same blade as D-8, full polished handle, screws same as D-but the handle is not let into the blade. See difference in cut.

We have recently patented THE SKEW-BACK Hand Saw, which combines numerous advantages over the old-Style Saw, being lighter and more easy to handle, stronger in proportion to the amount of metal in the blade, and more free from tremor when in use, than the ordinary Hand Saw of same width. To these Saws are attached our New Patent Handles, which possess many advantages over the old style. They bring the operator closer to his work, and in some of them the blade of the saw is embedded in the handle, imparting strength in case of an accidental blow or fall.

# GREAT AMERICAN CROSS-CUT SAW.



Particular care is taken in the manufacture of these Saws. They are made of the finest quality of steel, of uniform and high temper, ground gradually tapering from the teeth to the back, and are set and sharpened in the most perfect manner. Each Saw is highly finished and nicely etched, and guaranteed in every respect. The demand for this Saw has been and is constantly increasing, the number sold in the last year reaching over fourteen thousand. The above cut also represents our Improved Patented Cross-Cut Handles attached to the Saw.

# GREAT AMERICAN ONE-MAN CROSS-CUT SAW.



This Saw is manufactured under the same patent, and is as highly finished and fully warranted as the regular Great American Cross-Cut Saw, but is ground on the same principle as our extra quality hand Saws,

We have lately improved the Files for keeping the teeth of the Great American Saws in order. Parties ordering Saws would find it to their benefit to order a few of these files, for it is almost impossible to get the teeth out of order if the Great American File is used,

B. KREISCHER & SONS, FIRE BRICK

CLAY RETORT WORKS.

Established 1845. Office, foot of Houston Street, East River, NEW YORK.

The largest stock of Fire Brick of all shapes and izes on hand and made to order at short notice.

Cupola Brick, for McKenzie Patent, and others. Fire Mortar, Ground Brick, Clay and Sand. Superior Kaolin for Rolling Mills and found-ries. Stone Ware and other Fire Clay and Sand, from my own mines at New Jersey and Staten Island, by the cargo or otherwise.

# NEWTON & CO.,

PALMER, NEWTON & CO., ALBANY, N. Y., Manufacturers of

# FIRE BRICK Stove Linings,

Range and Heater Linings Cylinder Brick, &c., &c.

M. D. Valentine & Bro

# FIRE BRICK **And Furnace Blocks** DRAIN PIPE & LAND TILE.

Woodbridge, - - - N. J.

A. HALL & SONS, Perth Amboy, N. J.
ESTABLISHED 1846.
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FIRE BRICK

of reliable quality for all purposes, manufactured o the best New Jersey Fire Clays. Also, Architectura Terra Cotta, Fire Clay, Fire Sand, Kaolin, Ground Fire Brick and Diamantine Building Brick.

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FIRE BRICK,

For Rolling Mills, Blast Furnaces. Foundries, Gas Works, Lime Kilns, Tanneries, Soiler and Grate Setting, Glass Works, &c. FIRE CLAYS, FIRE SAND, AND KAOLIN FOR SALE.

HENRY MAURER, Excelsior Fire Brick & Clay Retort Works,

Manufacturer of FIRE BRICK, HOLLOW
BRICK AND CLAY RETORTS.
WORKS FRATH AMBOY, NEW JERREY.
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JAMES OSTRANDER & SON, ESTABLISHED 1848.

FIRE BRICK, Tuyeres, Tiles, Blast Furnace Blocks, etc. Miners and Dealers in Woodbridge Fire Clay and Sand, and Staten Island Kaolin

Established 1864. CARDNER BROTHERS.

STANDARD SAVACE Fire Brick, Tile & Furnace Blocks,

OF ALL SHAPES AND SITES. Clay Gas Retorts and Retort Settings,

Miners and Shippers of Fire Clay. OFFICE: 376 Penn Ave., Pittsburgh, Pa. Works: Mt. Savage Junction, Md., and Lockport, Pa

# **BORGNER & O'BRIEN**

Fire Bricks, Clay Gas Retorts. Retort Settings,

Tiles, Blocks, &c., &c. 23d St., below Vine, PHILADELPHIA.

Eighteen years' practical experience

# John Carver, CAULKING IRONS.

Cotton, Freight and Hay Hooks, No. 288 Monroe Street, Bet. Jackson & Corlears Sts., NEW YORK.

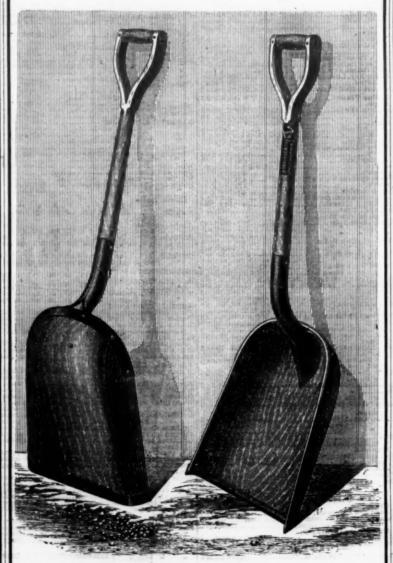
# TACKLE BLOCKS

BURR & CO., Patent Iron Strapped Blocks. ROPE STRAPPED BLOCKS.



# B. ROWLAND & CO.,

PHILADELPHIA.



# B. Rowland & Co.'s Patent Wooden Blade Grain and Potato Scoop.

We would call the attention of the trade to the above new article of our manufacture, and to its many advantages over the Steel Blade Scoop heretofore used for the same purpose, advantages which we think are destined to make it of universal use for the shoveling of grains of all descriptions, as well as for potatoes, apples, etc.: First, as to its weight, which is a little more than one-half that of a steel scoop of the same capacity, consequently it can be handled more rapidly and accomplish more work in a given time; second, as to its appearance—it is more sightly, being of a graceful shape, and constant use has the effect of giving the wood a beautiful hard polish, causing it to penetrate the mass of grain readily and deliver its load promptly. It balances perfectly in the hands, is thoroughly braced and guarded with iron at all exposed points, and is fully as strong and in some respects more durable than the steel scoop used for the same purpose. One trial will insure its future use to the exclusion of all others.

# B. Rowland & Co. CAST STEEL.

All goods of this brand (which is copyrighted) are warranted in every

# B. ROWLAND & CO.,

CITY OFFICE,

27 North Fifth Street, Philadelphia, U. S. A. Works at Frankford, Phila., U.S.A.

NEW YORK WAREHOUSE, 100 Chambers St.

The History of Silver Islet.

The history of the famous silver mine of Silver Islet presents one of the most striking cases of the vicissitudes of mining, and of the indomitable pluck and perseverance which confidence of a great future will inspire. It will be remembered by engineers that extensive explorations with the diamond drill at Silver Islet showed the importance of that tell for presenting in motal. mond drill at Silver Islet showed the importance of that tool for prospecting in metalliferous lodes. The following details from
the Detroit News give a good account of the
difficulty which attended the work and of
the periods of prosperity of the mine:
Silver Islet is on the northwestern coast
of Lake Superior, on the Canadian shore,
about seven miles east of Thunder Cape, 17
miles porth of Isle Royale, Prayies to 1820.

miles north of Isle Royale. Previous to 1870 it was a barren rock or reef, about 80 feet in length by 70 feet in breadth, and in no part rising more than 8 feet out of the water. It is situated about three-fourths of a mile from the mainland and exposed to the full sweep of 200 miles of Lake Superior tempests. On a stormy day the breakers dreached every inch of its length and circumference, and in winter it resembled a stationary iceber. It was owing to its inaccessibility and the difficulty of exhuming its argentiferous treasures that it came into the possession of American that it came into the possession of American owners. Its first private owner was the Montreal Mining Lands Company, which in 1846 purchased from the Canadian government a number of parcels of land amounting to 105,000 acres, on the coast of Lake Superior. One of these, which included Silver Islet, was named Wood's Location, and contained an area of about 6000 acres. The Montreal company made very little effort to ascertain the value of their locations until 1867, when it sent out a party under an ex-1867, when it sent out a party under an experienced mineralogist, Thomas McFarland, at present superintendent of the silver

smelting works at Wyandotte.

McFarland made two discoveries, one at
Jarvis Island and the other at Silver Islet. plarvis Island and the other at Silver Islet. The latter was, in a measure, accidental. The party was on the mainland, and McFarland, seeing an exposure of spar—an almost certain indication of mineral wealth—sent over his foreman, John Morgan, with two men, to make an experimental blast. While the men were drilling a hole for the recorder. Morgan, walked around the readpowder, Morgan walked around the reef and saw streaks of shining white in the water, at from 3 to 10 feet in depth. Off flew his clothes and down he dived to the bottom and detached a piece of shining ore. The blast gave no promise of metallic results, but the piece of surface ore filled the party with excitement. McFarland analyzed the specimen and found it composed of native silver, nickel and cobalt.

Of course the discovery of silver at the surface of th

or course the discovery of silver at the surface was promptly communicated to his employers, but the company had about exhausted itself by its explorations and purchases, and lacked both the money and the pluck to undertake mining on such a stormvisited ledge, where an immense sum would have to be expended in buildings and break-

have to be expended in buildings and breakwaters in order to protect the workmen and
machinery. They concluded that their best
policy was to sell the lands.

The purchase price was \$225,000 in all.
The Ontario Mineral Lands Company was
then organized, with A. H. Sibley as president, the principal contributors (the stock
company was not organized until afterward)
being Edward Larned, of Pittsfield, Mass.;
George S. Coe and C. A. Trowbridge, of
New York city; and Captain Eber B. Ward,
Simon Mandelbaum, Ed. Trowbridge and
Wm. B. Frue, of Detroit. The latter, however, was legally and technically the sole
owner of Silver Islet under his miner's
license and in actual possession, but he never
enforced his rights in the premises against
his associates.

ver ore. A few days afterward another furious storm carried away a part of the breakwater and some 3000 tons of rock. A breakwater and some 3000 tons of rock. A Lake Superior winter was now upon the party, the works were in ruins, and the islet was covered with ice, but Frue, still undaunted, was quick to plan and prompt to execute. Timber was necessary to reconstruct the cribs, and he plunged into the forest to look for pine, and after an unsuccessful search, sont out all hands on a tour of discovery. In a few days a fine grove of Norway pine was discovered on the northeast slope of Thunder Cape, and with this the cribs, &c., were rebuilt. Mining was again resumed, the miners being now 30 or 40 feet below the level of the lake and work progressed satisfactorily. The ore

pinch up." Packing ore was produced in less paying quantities, but toward spring the lode began to open out, and in the sea-son of 1872 the shipments amounted to son of 1872 the shipments amounted to \$600,000. In the same year a company within a company was formed. The Silver Mining Company of Silver Islet was organized, with a capital stock of \$6,000,000, in 60,000 shares of \$100 each. The property of the company comprised the islet and the rest of Wood's location, some 6000 acres in all. It may here be mentioned that the first purchase of the 150,000 acres of lands from the Montreal Company cost the Ontario Company only \$80,000, or \$50 for each of the original 1600 shares. The products of the mine paid the balance of the purchase price—\$225,000—and also for the substanprice-\$225,000—and also for the substantial improvements, machinery, paraphernalia, construction account, &c., amount-

nalia, construction account, &c., amounting to \$628,245.80.

In 1873 the lode produced \$426,000. In October of that year water broke into the mine from a subterranean fissure, and the pumping being insufficient the water rose rapidly. A new pump had to be built at Detroit. Again misfortune visited the mine in the winter, two heavy storms tearing away 20,000 or 30,000 feet of timber and 5000 tens of rock, the loss amounting to over \$11,000. In 1874 the mine, now 450 over \$11,000. In 1874 the mine, now 450 feet deep, barely paid expenses. The packing ore had given out, and it was necessary ing ore had given out, and it was necessary to work the poorer ore, which, however, was worth from \$12 to \$20 per ton. In order to reduce this stamping mills were necessary. The big proprietors agreed to surrender each one-tenth of the stock in order to raise the necessary money for a stamp-mill, and one was purchased and erected on the mainland in the winter of 1874. In 1875 the stamp mill paid for itself. 1874. In 1875 the stamp mill paid for itself, and left a good margin; but a number of improvements in the shape of submerged cribs, dredges, scows and other expensive works, swallowed up the money.

Morks, swallowed up the money.

In 1876 the main vein produced only a small amount of paying ore. Work was then begun on the east vein and some rich ore was extracted, but not in productive quantities. Little mining was done during the winter.

the winter.

In 1877 there was a reorganization. The Ontario Mineral Lands Company and the Silver Mining Company of Silver Islet, both substantially governed by the same persons, disappeared in July, and in their place appeared the Silver Islet Consolidated Mineral Lands Company, which owned all the original 105,000 acres purchased from the Montreal Company. The new company had a capital stock of \$1,000,000, divided into 40.000 shares of \$25 each.

40,000 shares of \$1,000,000, divided into 40,000 shares of \$25 each.

In July, 1877, the company resolved to contract its operations, and for this purpose allowed the water to rise over seven levels, and by pumping kept the three upper levels clear. Work was confined to these levels, and a number of drifts and cross-cuts were made between the main and branch voins during the winter. Some fair pockets were found and a quantity of ore was taken out for stamping. On the 20th of March, 1878, a party of workmen on the second level extended the drift south of the island to the junction of the main and branch vein, and there struck the new bonanza. This is richer than any of the previous "finds" of the mine. Up to September 21 last about \$100,000 worth of packing ore has been shipped to smelting works in New York. For the week ending September 28 the yield was \$43,000; October 5, \$73,000; October 12, \$69,000; October 19, \$103,000, and October 28, \$30,000.

A California Tree.—The San Francisco Post describes as follows a section of a tree now on exhibition in that city, which exceeds the diameter of the famous Calaveras tree by 5 feet: This monster of the vegetable kingdom was discovered in 1874 on Tule River, Tulare county, about 75 miles from Visalia. At some remote period its top had been broken off by the elements or some unknown forces, yet when discovered it had an elevation of 240 feet. The trunk of the tree was 111 feet in circumference, with a diameter of 35 feet 4 inches. The license and in actual possession, but he never enforced his rights in the premises against his associates.

Capt. Frue began work with vigor, and in 30 days erected on this storm-beaten ledge 460 feet of cribbing, thoroughly bolted together, filled with rock, and with an average depth of 13 feet. Inside this was constructed a coffer dam, which was filled with 300 tons of clay transported from Detroit. This was done by the force working unitedly as one man 18 hours out of the 24. The water is the inclosed space was pumped out by steam syphons and mining was begun on the 5th of October, 1870.

On the 26th of October a hurricane swept away half the completed works, and seriously damaged the remainder. The work had to be done over, and mining was resumed on the 18th of November. Notwithstauding this formidable interruption, the mine yielded, in 29 days' work, \$105,000 worth of silver ore. A few days afterward another There are the constant of the same species, having arrange atoms earned away a part of the sarchem carried away a part of the sarchem carri the center of this cavity was found the trunk of a little tree of the same species, having perfect bark on it, and showing regular growth. It was of uniform diameter, an inch and a half all the way, and when the tree fell and split open this curious stem was traced for nearly 100 feet, usually straight, but occasionally gnarled and twisted as though it had met impediments in its growth. It is believed to have sprung from a seed in the bottom, grown the whole length of the trunk, and supported a green, living top at the summit. The rings in this monarch of the forest show its age to have been 4840 years.

Capt. Tyson's Arctic Explorations.— The reports of the officers and scientific members of the Howgate arctic expedition who lately returned in the scheoner Florwas again resumed, the miners being now 30 or 40 feet below the level of the lake and work progressed satisfactorily. The ore produced was called "packing ore," being rich enough to be shipped in barrels and smelted without further treatment. It was worth from \$1400 to \$7000 per ton, the general average being \$1500 per ton, the general average being \$1500 per ton, the the first time to contract and smelted without further treatment. It was worth from \$1400 to \$7000 per ton, the general average being \$1500 per ton. On the 8th of March, 1871, a storm swept away both works and buildings, and then storm succeeded storm, sweeping away 550 feet of cribs, or nearly 50,000 feet of timber, and 6000 tons of rock, leaving nothing but ruin and desolation behind.

After the storms had spent their force, Frue again went to work. In a short time a new line of breakwater was begun, and notwithstanding all drawbacks there was shipped and mined \$1,000,000 worth of ore in 1871. The company had promised Frue a premium of 10 per cent. on the first \$250,000, and they kept their word. For that year Mr. Frue's salary was the same as that of the President of the United States.

During the winter of 1871-2 the lode began for the first time to contract and

# New York Wholesale Prices, November 13, 1878.

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w york whole	
Union Mfg. Co.'s Fancy Butss— 'teured Enameled Lone Joint	
## with Bilversed Acorns dis 70kto S #woodelf Hon dis 40kto S Lt. Narrow dis 40kto S Lt. Narrow dis 40kto S #road dis 40kto S	
#ast Joint Narrow	-
American Spiral Spring Butt Co., Jap'ddis 25 % Fancydis 10 % Babin Mfg. Co.'s Double Actingdis 35 % Contennial, Japanneddis 25 %	
Loose Pin, Wrt.   dis ackto \$   Spring Hinges:   American Spiral Spring Butt Co., Jap'd.   dis ost 0\$   American Spiral Spring Butt Co., Jap'd.   dis 10 \$   Babin Mfs. Co.'s Double Acting   dis 10 \$   Centennial, Japanned.   dis 35 \$   Centennial, Japanned.   dis 35 \$   Contan Spiral Hinge Co.'s   dis 15 \$   American Part Hinge Co.'s   dis 15 \$   Bounnes Spiral	
Bilmer	-
Union Mg. Co. dis 2 x 8 80mme 2 . dis 2 x 8 80mme 2 . dis 2 x 8 81mme 2 . dis 2 x 8 81	-
mumason a becarey and eo	-
D. N. Barton Took Co	
Can Openers. — # doz \$2.00, dis 20 \$ American # doz \$2.25, dis 65&10 \$	
\$3.00 26.00 20.00 33.00 \$7.00 41.00 45.00  (An Openera.  Messenger's Comet.  W dos \$3.5, dis 5.67.05  \$\frac{1}{2}\$ \$\frac{1}{2}	-
Star	
Sardine Scissors.	
Ely's E. B. 1-108, 95 & 50c. gold Double Waterproof, 1-48, \$1.50; 1-188, \$1.50s, gold Colt's. 1-108, \$0 m gold Cartridges. Metallic	
Cotton dis 25&to \$ Wool dis 25&to \$ Carpet Stretchers. \$\P\$ dos \$5.00, dis 30 \$ Cast steel, Polished \$\P\$ dos \$5.00, dis 30 \$	
' Iron, Steel Points	
Deep Socket. dis 40 % Cattle Leaders. Hotchkiss' Sons dis 10&10 % Humason, Beckley & Co.'s. dis 60 %	
Casters	
" 7-10-2	
Sarvanized Fund Casin. 93 loss cas io 3 sacc Chain, Iron. 61s 60sto 5 Grants. 61s 550s 550s 650s 650s 650s 650s 650s 650	
Blue # gross 900 net	-
White Crayons	
Douglass	
Witnessy 1001 Codis 70 %	
Corner   Douglass   dis 502 55	
Clamps,	
Adjustable, Gray's   dis 25	
Clips, Axle. Norway or Best dis 60 5 Superior dis 60 5 Cockeyes 114 in., 20c.; 114 inch, 33c.; 134 in., 37c, net Cocke, Brass. Locking, new list. dis 95	1
Pia in Dibba 11	-
Coffee Mills.  Board and Box	-
The Swift (Lane Bros.). dis 25 Combined Dinner Pail and Lantern. dis 25 Str doz 815.00.	-
Compasses, Dividers, &c., Ompasses dis 3&10 5 Ompasses dis 4&10 5 Oniders dis 4&10 5 Oviders dis 4&10 5 Oviders dis 65 Semis & Call Co.'s Dividers dis 65 Semis & Call Co.'s Compasses & Callipers dis 45&5 Cook's dis 45&5 Cook's dis 55 Cook's dis 55	7
4.5	-
dis 25 % Coppers' Tools.  Coppers' Tools.  Radigy's dis 15 @ 20 \$ 0  R Barton Tool Co. dis 20 \$ 0  Corkscrews.—Humason & B. dis 20 \$ 5  Corn K inives and Cutters.—Bradley's dis 10 \$ 0  Crow Bars.	-
Crow Bars.  Out Steel Points.   Fig. 2 by 50 net on the control of	-
6, 96, % in. \$1.80, 2.00, 2.40	A MALE
Curry Combs.  Durry Combs.  Durry Comb Hiz. Co	8 34
***************************************	E
Curiery, Go. (Table). bet deriden Cutiery Co. (Table). des x x x x x x x x x x x x x x x x x x x	MAC
mbossed Giltdis 20 %	CHC
Door Springs.  orpey's Rod.	S. H. S. C.
	40000
Japanned. # dos \$2.0e 2.50 3.50 Coppered. # dos 4.00 4.50 5.00 dis 30 % Nickeled. # dos 5.50 co 7.00	I
Temium (Coli)	E
No. 5, Screen Door Size	8
### ### ### ### ### ### ### ### ### ##	
Drawing Knives.         dis 6&10 €           rosaman's No. 1.         dis 6.2 to €           R. Rarton Tool Co.         dis 20 €           lart Mfg. Co., extra.         dis 6.2 c€ 10.62 €	C
Internation	E
Ouglas	

•	said i i ioos,	14
	Breast, P. S & W	disas
*	Breast, P. S & W.  "Hotchkiss. "Wison's. "Wison's. "Miller's Falls	dis 25 dis 25 dis 35
	"Weston's "Moore's Triple Actiondia Whitney's Hand Drilidi	dis 20 9 20 @ 25 9 8 20&10 9
	whitney's Hand Drill Wilson's Drill Stocks. Automatic Boring Tools, Beach \$2.7 Brill Chucks.—Rorse's Beach Patent Danbury	dis to ! dis 30 ! dis 30 !
	Danbury \$8.00 Ligg Henters. \$6.00 Dover. \$7.00 Family \$6.00 National \$7.00 Reference \$6.00	dis 20 9
-	L Dover. \$\psi\$ dos \$\psi_0\$  Family \$\psi\$ dos \$\psi_0\$  National \$\psi_0\$  Elevator Buckets. \$\psi_0\$  Mill E. Buckets. \$\psi_0\$  In. (Duc's Im	dis 331/6 f
-	National. # dos \$4.50; Elevator Buckets. Mill E. Buckets, light, 3½ to 10 in., (Duc's Im. # to \$1.50 & \$5.00 &	proved
	Emery and Emery Paper. Genuine Chester—liegular Nos  "Flour and FF	P B 50
-	Washington Mills—Regular Nos	10 B 80
6 6 6	Hampden Emery Grain Flour B. & A. Emery Paper dis	5c net 3c net
-	Storehouse, (Duc's Patent) 12 to 17, \$12.00 @ \$50 Emery and Emery Paper. Genuire Gleater-Liegular Nos.  "Flour and FF. "In 10-lb. cans. Washingson Mills—Regular Nos. "Flour" Wellington Mills, Grain #1 "Flour" Flour #1 Hampden Emery Grain.  B. & A. Emery Paper. Enameled and Tinned Ware. Kettles.  Sauce Pans. Tinned Sauce Pans. Escutcheon Pins.	dis 45 %
	AFOM	11m 3373 A
	Brass Threaddis	60810 %
	Wood Faucets Fenn's Cork Stops Star discount dis	dis 40 %
-	Frary's Patent Petroleum	dis 40 % dis 40 % dis 40 %
	Cork Lineddis Enterprise (Self Measuring)? dos, \$30.00, Felloe Plates? \$ 150. Files.	70&10 % dis 20 %
	Fellee Plates. # B 190.  Files. # File Co	dis 25 %
	G. & H. Barnett Nicholson(Nicholson List) Heller & Bros	dis 35 % dis 20 %
	Jowitt's	o L gold o L gold o L gold
	Walter Spencer & Co.'s "Diamond" 4-50 to Walter Spencer & Co.'s "Diamond" 4-50 to Hoas & Gamble 4-50 to	o £ gold o £ gold o £ gold o £ gold
	H. Disston & Sons (new list)	dis 35 % c gold dis 40 %
	Finting Machines.  Knox, 4-inch Rolls	ach net ach net
	Peerless, 4-inch Rolls 4.00 6  Eagle, 334-inch Roll 890.00 W dos, 4000 W dos,	ach net ach net ach net dis to % dis to %
	Eureka. No. 1, 7-inch Roll	18 3314 % is 3314 % dis 50% wch, net
	Domestic Fluter. 1.50 e Geneva Hand Fluter. \$15.00 \( \tilde{\pi} \) doz, Shepard Hand Fluter. No. 75 \( \tilde{\pi} \) doz \$15.	dis 10 %
	Combined Fluter and Sad Iron dos 15.00, Buffalo	dis 10 % dis 10 % 45&10 %
1	** 4-00  **Peerless, 4-inch Rolls. 4-00  **Eagie, 39-Inch Roll. \$90.00 % dos.  **Eureka. No. 1, 7-inch Roll. 500.00 % dos.  **Comm. 49-inch Roll. 500.00 % dos.  **Comm. 49-inch Roll. 500.00 % dos.  **Eureka. 500.00 %	dis 15 %
	Fruit and Jelly Presses. Enterprise Mfg. Co. Fry Pans.	n 40005 % dia 20 %
		7 8 00 0.00 dls 40 %
	Clawese	45&10 % 50&10 % dis 35 % dis 10 %
1	44 Co-441 to To-44	CLES 40 %
1	Ber Gimlets.  **Ber Gimlets.  **Ber Gimlets.  **Bross \$1.00,  **Bureka Gimlets.  **Bross \$1.00,  **Bureka Gimlets.  **Bross \$1.00,  **Bureka Gimlets.  **Bureka Gimle	dis 45 % dis 50 % 200 10 % dis 40 % dis 50 %
1	1 (4 Doneland)	dia 50 % 40&10 % dia 40 %
1	Tinned and Enameled.	CL18 45 %
	Family, Howes Eureka G'Line & Handy G'Indistene Fixtures. Sargent's Fatent. dis 708 Reading Hardware Co Keystone dis 408 Hart Mrg. Co., Nos 9 to 11 dis LI numers.	tiokio s kioki s kioki s
	Hammers. Cheney's Steel Face and Claw.	dis 14 %
	Hammode Chenry's Steel Face and Claw dis Heel. dis Heel. dis Hammonds dis Verree Magnetic Tack dis Warner & Noble's Yerkes & Plumb's .	dis 30 % dis 5 %
	Warner & Noble's. Yerkes & Plumb's. Kip's (new list, Sept. '46). Hand Cuffs and Leg froms. Providence Tool Co. 's Hand Cuffs, \$1,00 \$\text{P}\$ dos \\ Leg froms, \$2,5 \$\text{dos}.\\ Tower's. Handles.—Door or Thumb Latches—	dis 70 %
	Providence Tool Co. 's Hand Currs, sicco \( \psi\) dos \( \)  Tower's.  Handles,—Door or Thumb Latches—  Nos 0 1 2 3 4	dis 10 % dis 25 %
	Towers Handies.—Door or Thumb Latches— Nos. 1 2 3 Per dos \$2.50 Loo 1.15 135 1.50 dis Roggin* I Latches \$2.50 Loo 1.15 135 1.50 dis Roggin* I Carches \$2.50 Loo 1.15 135 1.50 dis Roggin* I Latches \$2.50 Loo 1.15 135 1.50 dis Roggin* I Latches \$2.50 Loo 1.15 1.50 dis Roggin* I Latches \$2.50 Loo 1.15 1.50 dis Roggin* I Latches \$2.50 Loo 1.50 dis Roggin* Chest. \$2.50 Loo 1.50 dis Roggin* I Latches dis Latches di	64&10 % 390 not
	Jap'd Store Door Handles—Nuts, \$1.40; Plate \$ no Plate, 750.  Barn Doorper dos \$5.00, dis 65& Wrought Chest	net loctio i foctio i
	Surface Chest, Sargent's list	10&10 % 10&10 % 60&10 %
Ľ		
ľ	Apple " assorted, 6.00	
	Bedads sieutieu, 5,07	dis soft to %
	Douglass' # set \$1.25.	dis 10 %
	Hangers.—Anti-Frictiondis Barn Poordis 70% 10 @ Novelty	408:10 % 748:10 %
	Starling Improved (Anti-Friction)dis	75&10 %
-	Harness Samps.  Hanahaw'sList of 1)4 changed to \$14.00,  1040's	11s 50 % 50&10 % dis 50%
-	Hotenkiss 4 Andrews 5 Sargent's dis New York Wire dis "German" dis	ils 50 %
1	Hatcheta.  sainh Blood.   Shingling, Nos. 1 2 3	118 30 % 88.75
1	Claw, Nos. 1 2 3, doz 7.75 8.50 Lathing, Nos. 1 2 3 doz 7.50 8.00 Hunt's. Shingling, Nos. 1 2 3 doz 87.25 88.00	0.25 8.50 lis 25 %
1	Hunt's Nos. 1 2 3 9 dos 87.25 83.00 Clave Rosa 1 2 3 9 dos 7.75 8.50 Clave Rosa 1 2 3 9 dos 7.77 8.50 Hunt's Nos. 1 2 3 9 dos 7.77 8.50 Hunt's Nos. 1 2 3 9 dos 88.60 88.50 Nblueting Nos. 1 2 3 9 dos 88.60 88.50	9.25 9.00 118 40 %
1	Lathing, Nos. 1 2 3. \$\psi\$ doz \$7.50 s.25 \\ Hurd's. Shinging, Nos. 1 2 3. \$\psi\$ doz \$8.00 \$2 5.0 \\ Claw, Nos. 1 2 3. \$\psi\$ dos \$0.00 \$.50 \\ Lathing, Nos. 1 2 3. \$\psi\$ dos \$0.00 \$.50 \\ Shinging, Nos. 1 2 5.	30,00 0,00 11s 35 %
	Claw Nos. 1 2 3	10,00 9.00 14.00
	NOS. 1234.	\$7.00 7.50
1	D. R. Barton Tool Co. (Solid Steel)	lis 20 % 10.00 9.50
1	D. R. Barton Tool Co	lis 35 %

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-	M. H. Jones & Co	Squ Hez Wa
NAMES OF	"Lightning" # dos \$20.00 ne	t O
***	Hinges	Nav S Bra S Oin
a t	Gate, Clark's No. 1	S Bro S Mal Pric S O
d) et d)	"Shepard's	P
ic ic	Plate Hinges   6 to 10 in, 456 \( \psi \) \( \text{ in } \) \( \text{dis 10} \) \( \text{"Providence"} \). \( \text{over 10 in, 456 \( \psi \) \( \psi \) \( \text{dis 10} \) \( \text{Screw Hook and Strap} \) \( \begin{array}{c} \begin{array}{c} \psi, 12 ih., 110 \\ \text{dis 50 kie.} \end{array} \) \( \text{dis 50 kie.} \) \( \text{Screw Hook and Strap} \) \( \begin{array}{c} \begin{array}{c} \psi, 12 ih., 160 \\ \text{dis 50 kie.} \end{array} \)	Bra.
ec ec et et	(14 In. & up, 9%c) [16 & 1 in., 100] [17] M. In. (100)	For Mag
et % %%	Riveted Shank W dog 2.25 dis 15	g   Ben
N NN	Scovill Patterndis 25 @ 30	Mou Bail Bail Defi D. R
8 % %	Scovill Patterndis 20(325)	6
KMMMKI	Bird Cage, Sargent's list	PI
7555 C	" McGill's, \$2.00 \( \) dos	Butt Hull Hun Gas Eure
× × × ×	Celling Hart's list	Eure Russ P. S.
REERIE	" Reading dis 45% 4570 & 3 %  Reading dis 45% 4570 & 3 %  Tassel (T. & S. Mfg. Co): dis 40 %  Wrought Staples and Hooks and Staples, dis 75 @ 75% 10 %	Pi Diss Stan
dddddd	" Sargent's list dis 66%cro 8 " Reading dis 45%cro 83.  Tassel (T. & S. Mfg. Co's list dis 45% Wrought Staples and Hooks and Staples, dis 75% 75%ro 8 Wire Screw Hooks and Eyes dis 45% Wire Screw Hooks and Eyes dis 45% White Screw Hooks and Eyes dis 45% White Screw Hooks and Eyes dis 45% Hooks and Eyes dis 56%cro 80% Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%  Hooks and Eyes dis 56%cro 80%cro	Stan John Davi
dxdx	Horse Nails  Nos. 5 6 7 8 9 10  Ausable	Sam
20000	or Blued " 310 280 260 250 240 230 Bridgewater Iron Co. Nos. 5 6 7 8 9 10	Leed
RESER	" P't'd & Blued. 31c 28c 26c 25c 24c 23c 5@ 25 %	Sar
	H. P. Pointed and   26 23 21 20 19 18 20 5 18 20 5 North Western Fini'h'd 26 23 21 20 19 18 10c not 25 22 20 19 18 17C not 25 25 25 26 27 19 18 17C not 25 25 26 27 19 18 17C not 25 25 26 27 19 18 17C not 25 25 25 26 27 19 18 17C not 25 25 25 25 25 26 27 19 18 17C not 25 25 25 25 25 25 25 25 25 25 25 25 25	Prur Pu Judo
6666	Polished, Pat. Fin	Judo Hot Jap's Bras Jap's
	Hofus Shoe Co., Ferkins' Improved Light,   Medium and Heavy   Fixed Shoes   Reg 3.62   Mule Shoes   Reg 4.62   Perkins' Show   Fixed Australia   Fixed Aus	Hay
	American les Chisel P doz \$6.00 dis 45 5 National P doz \$6.20, dis 20 5 Novelty Ice Breakers P doz \$6.25, dis 20 5 White's Sliding Head Picks P dos \$2.50 dis 20 5	Shad Pu Selt Sprin
-	Wood Head Picks, Sargent's. doz \$1.5; dis ook 105 Iron doz 1.8; dis ook 105 Ice Mallets Pickin H~1 200 Pick in Handle doz 0.00 net	R
	Globe (New list)   Nos. 5	Racast
1	Combination for Tools  [Combination In the Tools of Tools	Malle
	Bread Moran's Shoe and Bread Knives dis so S Hay and Straw—'Wadsworth's" dis so S Table and Pocket See Cutlery	Rada Bada Bada Evan Imita
	Table and Pocket	Hunt Chap Torre
	" Por. Jap'd. Same discounts as Door Locks. " Plated 75c gross inch, dis to 5	Iron in bu Copp
	Picture (T. & S. Mfg. Co.). dis to 5 Sargent's. dis fokto 5 Shutter, Porcelain. dis 60 % T adles.	Tinn Ri Re Stair
	Indies.   Meiting   Hart's   dis 55810 \$   Hart's   dis 50810 \$   Hart's   dis 50810 \$   Hart's   dis 50810 \$   Hart's   dis 50810 \$   Monroe's Patent   W doz \$4.00, dis 20 \$   Lanterns   Lanterns   Lanterns   dis 50810 \$   Lanterns   Lanterns   dis 54.00, dis 20 \$   Lanterns   Lanterns   dis 54.00, dis 20 \$   Lanterns   dis 55810 \$   Hart's   dis 55810 \$   Hart'	Sarn Nove
	Lanterns.   No. 0, \$10.00; No. 1, \$11.50   net	Mani
	#tina. dis tokto \$  Yankse dis tokto \$  Police . Small, \$7.50 ; Med., \$9.00 ; Large, \$12.00, diszokto \$  Police . Small, \$7.50 ; Med., \$9.00 ; Large, \$12.00, diszokto \$	Sisal.
	Yankee dis 10% to 50 be Beque	Ru Chap Stank
	Sammis   No. 1, \$7.50; No. 2, \$12.00 \( \text{ GOR, GR 2} \) (34\) (5 Townsend 2 Patent   \$8.00 \( \text{ GOR, GR 3} \) (40\) (41s 25\) (5 Cotton Chalk   \$1.00 \) (41s 25\) (5 Still Lake Chalk   Nos. 0, 1, 2, \$\$6.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$7.00, \$6.50, \$6.50, \$7.00, \$6.50, \$6.50, \$7.00, \$6.50,	Steph Steph Sad Self-H
	87.6	Gleas Enter Mrs. 1 Comb
	" Eagle\" dls 30 %  Barnes & Daits	Bask
	Sil Lake Chaik Nos. o, 1, 2, 3, \$6.00, \$6.50, \$7.00. \$7.00. dis so 5 Misson's Linen dis so 5 Language and Latches.  Jabinet—Gaylord' dis 2,82 5  Barnes & Daits dis so 5  Harder Daits dis so 5  Languaroth & Crane's List Jan. 1, "7. Hound Key dis 4,85 5  Languaroth & Crane's List Jan. 1, "7. Hound Key dis 335/810 5  Barnes & Dolis, Flat Key dis 335/810 5  Barnes & Dolis, Flat Key dis 335/810 5  Sarnes & Dolis, Flat Key dis so 5  Shepardson's, Flat Key dis so 5  American Lock Mig. Co dis 335/82/kg 5  F. Many's "Extension Cylinder" so. 60 v dos, net  Dool Locks, & C.  Branferd dis 58/102/8 \$	New I
	American Lock Mfg. Co. dis 33% & Plate Plate dis 33% & Extension Cylinder " \$10.40 \times does not DUOR LOCKS, &C. dis 608108 & S.	Paten
	Branferd	Sicol Sas Clark Fergu Walk
	Heading Hartware Co	Walk Hamr North "The
	Trenton	Sas Nav Miles
	Barnes & Dietz.	Perry Draw Enter Silver Sav Dissto
	Miles' Challenge, 100, 100, 100, 100, 100, 100, 100, 10	Dissto
в.	# dos#33.00 #2.00 31.00 #2.00 #	E. M.
	Draw Cut Nos. 5   2   3   4   6   25   5   6   6   6   6   6   6   6   6	Whee
1		Pe
	Chase's Hard Metal. dis 30 % Bush's dis 20 % Glush's dis 20 % Chase's Hard Metal. dis 20 % Glush's dis 62 % 20 % Weed's dis 15 %	Sav White Red, F Saw R

E 40 ;	Nails
9.00	Square Nuts
9.00 4.50	Washers
9.50	Table (Humason & Beckley Mfg. Co.)dis 3316 Blake's Pattern
o ne	Onkum. Bost
&10 f	Navy B 890
&IO S	Brass and Copper. dis 50 % Olmsted's dis 40 % Broughton's dis 40 %
\$ 50 S	Broughton'sdis 40 % Malieable (Hammer's) % doz \$4.00, dis 10 %
8 20 5	Ox Balls
8 40 1 8 20 1 8 10 1 8 50 1	Faber's Carpenters'
ACRO T	Dixon's Lead
tio f	Drage Head Sammontle I let dis collectors
kie A	Porcelain Head, Sargent's Listdis 50&10&10 g
30 %	Pinking From & S. Mig. Co
36 %	Magic
159	Crown Plating Machines
1 15 5	Planes and Plane I rons. Bench, First Qualitydis 35&10 %
15 % 30 %	Second "   dis voltos
30 %	Balley's "Victor" "dis 25&10 %
35 %	D. R. Barton Tool Co
30 % 025 %	Buck Bros
1 50 %	" D. R. Barton Tool Co
IO S	Ohio Tool Codis 20&10 %  Spear & Jackson's
25 %	Pliers and Nippers.
20 %	Hull's Patent Nippers, No. 1, \$15; No. 2, \$21 \$\pi\$ doz, dis 25  Humason & Beckley Mfg. Co
&2 % t10 %	## Sandars Tool Co. dis 10&10&10&10  Pliers and Nippers Button's Patent Nippers, No. 1, \$15; No. 2, \$21 \$\forall dots, dis 130\( \) A Hull's Patent Nippers, No. 1, \$15; No. 2, \$21 \$\forall dots, dis 20\( \) Humason & Beckley Mfg. Co. dis 30\( \) Cas Pliers  Humason & Beckley Mfg. Co. dis 20\( \) 618 20\( \) 628 Pliers  Gas Pliers  dis 20\( \) 628 Eureka Pliers and Nippers  dis 25; \$2. \) Eureka Plers and Nippers  dis 35; \$2. \) End Cutting Nippers  dis 25;   "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers  dis 25;  "Tinners' Cutting Nippers
110 %	P. S. & W. Cast Steel. dis 25 % P. S. & W. Cast Steel. dis 35 %
LIO S	" "Tinners' Cutting Nippersdis 20 %
40 %	Stanley R. & L. Co.'s Pat. Adjustabledis 50 %
40 % 210 %	Chapin's Patent Adjustable dis 60&10 %
40 % 40 %	Standard Rule Co.'s New Adjustabledis 60&10 % Non-Adjustabledis 60&10 %
% OIS	End cutting Nippers dis 25 Plumbs and Levels. dis 25 Plumbs and Levels
	Johnson's Patent Adjustable dis 60&10 5 Davis Patent dis 60&10 5 Poste Levels dis 60&10 5 Poste Hole and Tree Augers. dis 60&10 5 Post Hole and Tree Augers. Samson Post Hole Digger per dos \$56.00, dis 20 5 Fletcher Post Hole Augers. \$400 36.00, dis 20 5 Vaughan's Post Hole—61n. \$25,60; 7,8 and 9 in. \$25 per dos. dis 20 5 Leed's \$50; 7,8 and 9 in. \$25 per dos. dis 20 5 Leed's \$600, dis 40 5 Potato Parers, &c. \$600 \$800, dis 40 5 Potato Parers, &c. \$700 \$800, dis 10 5 Bay State. Add Silver \$700 \$100 \$100 \$100 \$100 \$100 \$100 \$100
dia 20 %	Fietcher Post Hole Augers # doz 36.00, dis 20 % Vaughan's Post Hole—
	6 in. \$23.60; 7, 8 and 9 in. \$25 per dos
1BC	Potato Parers, &c.
is 15 25 %	Saratoga" Peeler and Slicer W doz 7.75 dis 10 % Pruning Hooks and Shears.
net	Pointo Parers, &c.  Bay State Saratoga Prelor and Slicer.  P doz \$13.00 dis 10 % Saratoga Prelor and Slicer.  P doz 7.75 dis 10 % Pruning Hooks and Shears.  Disston's Combined Pruning Hook and Saw Peruning Hook Pruning Hook and Saw Pruning Hook Peruning Hook Pruning Shears.  P doz \$4.90 \$5.00 net Pulleys.
net	Pruning Shears
net	Hot House and Tackiedis 66%&10 %
net	Jap'd Screw.   dis 60% & 10 %     Brass Screw.   dis 60%   0 %     Jap'd Side.   dis 65% & 10 %     Clothes Line.   dis 66% & 10 %     Clothes Line.   dis
6236	Sap'd Side
6216 6216 1216	Jap'd Side
42.5	Shade Rack
30 % 30 % 40 %	Yunches   Y doz \$2.00; 2.25; 2.40, dis 40 \$
40 % 25 %	" Leach's Patent
2 OI	Raliding Door, Wrought Brass & B 400 dis to \$
net net net	Raiding Door, Wrought Brass # D 40c dis 10 \$  Iron, Painted # foot ec. dis 55k10 \$  Barn Door, \$4, 54 and 14 inch dis 75k10 \$  Raikes for N. E. Hangers. dis 70k10 \$  Raikes
net so \$	IOF N. E. HENEEPS
20 %	Rukes.
net	Tor N. E. Hangers dis 70000 %  Rakes.  Cast Steel. dis 15 feeth.  \$ 10 12 14 15 feeth.  \$ 5,00 5,75 5,50 7,25 8,00
net net 45 %	Cast Steel
net net 45 %	Cast Steel
net net 45 %	Cast Steel
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November 14, 1878.	T	HE IRON A
Naw Sets. Boynton's Patentdis 40 %	Ventilators. Protective (upper) per foot, \$1.00	No.22
Stillman's Genuine	Ventilators. Protective (upper) per foot, \$1.00	NO.26
Leach's No. 0, \$8.00; No. 1, \$15.00, dis 15, \$1, \$10.00 No. 1, \$8.50; No. 2, \$5.00, dis 202 to \$1 Hammer, Hotchkies \$1, \$20.00 No. 1, \$2.50, dis 202 to \$1.00 No. 2, \$2.50, dis 20	Johnson's. # dos \$12.00. dis 20210 % Penny's. # dos \$14.00 and \$16.00. dis 30210 % Appleton's. # dos \$8.00, dis 10%	No.28
Pemis & Cail Co.'s New Pat. Lever. dis 20&10 % Aiken's Genuine. \$13.00, dis 40&10 %	Protective Ventilator Co. sdis 25 %	No.32
Sat w   Seta.   Soynton's Patent   dis 40 5	Well Wheels.—Revised list	Noting Wire so # B advance.  Spring Wire so # B advance. Flat, Square and Half Round Wire & # B a on Round Wire. Francy Wire not less than 10c # B advance of
Disston**   Scale**   Hatch, Counter   P doz \$96. dis 408 2 8     Tea   P doz \$96. dis 408 2 8     Tea   P doz \$10. dis 9 5     Union Platform   Bood, dis 9 5     Turnbull** Market   dis 208 4 5     Fairbanks'   dis 208 5     Howe's   dis 208 5     Chatillon's Grocers'   dis 20 8     Family Universal   dis 25 5     Family Universal   dis 25 5     Family Culversal   dis 25 5     Constitution	Nos. 19 @ 25, dlis 57% @ 50 %  Nos. 27 @ 45, dlis 57% @ 50 %  Nos. 27 @ 45, dlis 57% @ 55 %  Coppered. Nos. 0 @ 18, dlis 47% @ 50 %	Fancy Wire not less than not # B advance of Wire. Brass Rods, No. 8 and larger not less than lengths, 33c.
Turnbull's Market	Galvanized, Nos. o to 6	
	Cast Steel	wire straightened and cut, smaller than No. not less than 2 feet lengths, 36c. Wire and Rods less than 2 feet lengths, specia Twelve cents per B extra for spooling on 1 B MRCELLANGOTS. Common Plain Brass Pall Ears. Brass Door Rail.  SCRAP.—net. High Brass Scrap. Low
"Turnbull's. dis 25 % Scale Beams, Chattlon's list. dis 26 %	Galvanized Telegraph, Nos. 7 to 9 \$18.55 (45.7% \$2.50 \$1.0	Common Plain Brass Pail Ears
Family Universal	Tinned, Nos. o to 18. dis 40 64 47½ 8 Coast Steel. dis 47 66 60 64	High Brass Scrap. Low Gilding. Turnings, Filings and Chips half the price of S- Torms—Net cash. Interest to be added after
Defiance Box and Ship	Japanned Barb Fence. % 5 1cc Galvanized 8 to 1cc to	days.
Screw Drivers. Hart, Bliven & Mead, new listdis 45&10&2 \$	Judd's Picture Wire	Plain to No. 20 inclusive, above 1/4 in. to 3 in  " above 3 in.  Nos. 21, 22, 23, two cents advance on List for e
Disston's	American Adjustable dis 45 % leaxter & Adjustable "8," dis 20 % Diagonal dis 20 % dis	Number. Nos. 24, 25, 26, four cents advance on List for a Number.
" (Providence Tool Co	Coes' Genuine dis 55 @ 60 % "Pattern Wrought) dis 75 % "Allenbie) dis 75 %	Plain to No. 20 inclusive, above ¼ in. to 3 in
Fire H'd iron	Girard. dis socios 10 % 10 % 10 % 10 % 10 % 10 % 10 % 10	All Mandrel Drawn Tubes, 5 cents advance on Prices. Fancy Tubing to No. 20.
Figt Head Brass dis 50 % Round Head Brass dis 35 % brass and Silver Capped dis 40 %	Davis' Patent Duplex.  Bemis & Call's Patent Combination	Panes Fancy Tubing to No. 20. English, Scotch and Extra Patterns Fancy Tul The No. 20. Tubing Saved or Cut 2 to 4 feet long, 2 cents
Japanned dist of Plain Screws dis 50 % Lag or Common Coach dist 70 % % Coach Patent Gimlet Point dis 40 % 45 %	Alken Pocket (Bright)	vance on List. Add to 2 cents % cent for each additional cut under 2 feet. All Mandrel Drawn Tubes under % in., 35 cents
Machino, Flat Head, Iron, Am. Scraw Co	Wringers. Universal, Cog Wheels, No. 216. \$60.00	pound advance.  Zinc Tubing.—net.
" Wood, Beach # dox \$3.00, net " Hickory dis 20&10 \$ Hand dis 20&10 \$	" No. 116 71.00 Crown No. 2 54.00 " No. 216 69.00	Plain. Fancy. Scotch and Extra Patterns. GERMAN SILVER TUBING.—dis to
Hand Rail, Sargent's	No. 3 09.00 Eureka, No. 1. 57.00 Novelty, No. 10, with Cog Wheels. 60.00	Per cent.
Sash(T. & S. Mfg. Co.). dis 35 \$ Shears and Scissors. dis 35 \$	Excelsior, No. A, with Folding Bench. 84.00  "No. E, for Set Tubs. 66.00  Keystone No. 1. Wood Frame, no Gear. 66.00	12 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
" Iron, 'American' dis 50 2 55 5 Seymour's Straight Trimmers. dis 50 4 155 5 Seymour's Scissors. dis 65 6	Collaboration   Collaboratio	STEELDUTY: Bars, Ingots, Sheets and valued at 7 cents F B., or under sale control
Sargent & Co.'s	No. 216	cents, and not above 11, 3 cents ? h; over 11, 3 h, and to % ad val. Railway Bars, 114 cel Railway Bars, in part Steel, 1 cent ? h. Pr
Tinners dis so the state of the source of th	Hamped Tinware. Common Stamped Ware, L. & O. List, April, 1578, dis 50\$10 \$ Stamped Deep and Retinned Ware, L. & G. List, April, 1878	STEE1DUTY: Bars, ingots, Sheets an valued at 7 cents \( \psi \) B., or under, 24\( \) cents; cents, and not above it, cents \( \psi \) b., and no \( \psi \) ad val. Kallway Bars, 14\( \cdot \) Failway Bars, 15\( \cdot \) cents \( \psi \) b. To least the control of the con
Bilding Door, M. W. & Co., 1885	METALS.	Tool. Spring. Homogeneous Boiler Plate.
"R. H. S. " dis 5; \$ Sheaves. Silding Door, M. W. & Co., list dis such 52; \$ Silding Door, M. W. & Co., list dis such 52; \$ R. & E. list dis 5; \$ " Hatfield"s dis 5; \$2; \$ " Hatfield"s dis 5; \$2; \$ " Russell's Anti-Friction dis 5; \$2; \$ Silding Shutter, R. & E. list dis 5; \$2; \$ Silding Shutter, R. & E. list dis 5; \$2; \$ " Sargent's list dis 5; \$2; \$ Moore's Anti-Friction dis 2; \$2; \$ Moore's Anti-Friction dis 2; \$2; \$2; \$ Moore's Anti-Friction dis 4; \$ Philadelphia, Hanging dis 5; \$3; \$ Shovelis and Spades dis 2; \$3; \$2; \$1; \$2; \$1; \$1; \$1; \$1; \$1; \$1; \$1; \$1; \$1; \$1	IRONDuty: Bars. 1 to 146c. * h: Sheet. Band	Tire
" Sargent's list. dis 24k10 t Moore's Anti-Friction dis 45 t Philadelphia, Hanging dis 40448 t	IRON.—DUTY: Barn 1 to 1½c. W h; Sheet, Band Hoop and Scroll, 1½to 1½c. W h; provided, that none of the above iron shall pay a less rate of duty than 35 per cent. Pig. \$7 W ton; Polished Sheet, 2c. W h; Wrought Scrap, 86 W ton: Cast Scrap, 86 per ton. Railroad 70c. W 100 hs. Boller and Plate, 1½c. W h.	File
Philadelphia, Hanging. dis 40-46-7 Shovels and Spandes.  Arries dis 37-6 dis 32-6 di	Wrought Scrap, 80 \$\psi\$ ton: Cast Scrap, \$6 per ton. Railroad 70c. \$\psi\$ 10c Bs. Boiler and Plate, 1\psi_c. \$\psi\$ B. Pig Iron—American.	gang and X cut. circular as to size. Chrome Steel.
Old Colony. dls 30 S Middleboro' Shovel Co. dls 30 S Remington's (Lowman's Patent). dls 30 S	Pig   Fen	Fool, extra fine.
Dunning's Shovels and Scoopsdis 30&75/5 8 Rowland's "Regular," new listdis to 5 "Patent, new listdis 40&5 5	Eglinton	Gun or Homogeneous
Oxford Patent, new list. dis 4083 % Shovels and Tongs. In 27 and Brass Head, R. & E. list. dis 5082 %	Rails	Extra Cast. Reund Machinery, Cast
Polished Steel dis 50%2 % Slates. Square Frames, Round Cornered, by case dis 70 % Less than a case dis 50,8210 %	Wrought Scrap, from yard. F ton, nom, 20.00 & 21.00	Best Double Snear.  Blister, 1st quality.  German Steel, Best.
Less than a case. dis 64810 % Spoke Shaves. Defance Metallic new list, dis 25810 %	Wrught Scrap, from yard. F ton, nom. 2000 \$21.00  Bar Iron, from Store.  Common Iron: \$\frac{1}{3}\$ to 2 in. round and square. \$\frac{1}{3}\$ to 2 in. \$\frac{1}{3}\$ \$\frac	Sheet. Steet. Steet. Steet. Steet. Sheet. Steet. St
Iron.   dis 40&10 \$\)   Wood   dis 30 \$\)   Bailey's   dis 25&10 \$\)	% to 2 in. round and square	ANTIMONY.  LEAD, DUTY: Pig \$2 7 100 5a; old Lead, i Pipe and Sheet; 25c \$2 5.  American.
Less than a case	Rods = 56 and 11-10 found and square   \$ \$ 2.10   Rands = 1 to 6x3-16 to No. 12   \$ \$ 4.40   Swedish Iron :	Pipe and Sheet, 2%C ? b. American
Douglass*. \$\psi\$ dos \$\phi_{0,00}\$ dis soate \$\text{s}\$ Speons.  Speons.	1 to 6 in. %\( \) to 1 in.	American Bar
Easting	Common R. G. American.  Nos. 10 to 20. \$\psi\$ \psi \psi_{\text{sc}} \text{ 24.} \$\psi\$ \psi_{\text{sc}} \text{ 25.} \$\psi_{\text{sc}} \text{ 26.} \$\psi_{\text{sc}} \text{ 27.} \text{ 27.} \$\psi_{\text{sc}}  27.	N. P. U
Rogers & Bro. A I.   dis 40% 5 % cash   Reed & Barton   dis 40% 5 % tash   Reed & Barton   dis 40% 5 % tash   dis 40% 5 % tas	26. 3360 Galvanized, 14 to 20, B. B. \$ \$ \$560; 2d qual. \$ \$ \$560	b; Elecro-galvanised Plates, 2c \( \pi \) b; Manu of, not enumerated, 35 per cent. ad. val. Bar and Plas free. Banca, subject to duty of 10;
Holmes, Booth & Haydensdis 4085 % German Silverdis 3085 % Diargond Steel (L. Boardman's Sons)dis 3085 %	25 to 26, " \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Banca W B if Straits W B if G i7 c English W B i5 G i6 c
Tin (P. S. & W.), Teas. \$1.50 \times gross, net Tables. \$2.50 \times gross, net tin Cowles Hdw. Co.). dis to \$	Patent Planished	I C 10X14) Prime Charcoal
Stocks and Dies. discaro :  'Lightning' Screw Platedis. 10 \$  Stone.	per, 4 t m; Manufactured (including all articles of which Copper is a component of chief value), 45 % ad valorem.	IX 10X14) 12X12   Prime Charceal
Lightning "Screw Plate   dis 10 5	per, 40 %); Manufactured (including all articles of which Copper is a component of chief value), 45 % ad valorem.  American ingot	LAX30 1 " C 124(X17 " C T 124(X17 ) T 124(
Washita Stone. No 1, W B 2246	Brasiers' Copper, ordinary sizes, 15 os. and over 12 oz. 7 sq. ft.	I C 20X14
Arkansas Stone	Lighter than 10 oz. \$\psi\$ sq. ft \$\psi\$ 310 Circles less than \$\psi\$ in. in diameter \$\psi\$ 220 Circles \$\psi\$ in. diameter and over \$\psi\$ 310	C 10X14   C 12X12
Tirreey Oil Stone (Boyd & Chase) to san, s.co w s. " Slips " \$1 stone (Boyd & Chase) \$2.00 \$5, dis 10 \$	Segment and Pattern Shoets # 28c Locomotive Fire Box Sheets # 25c Sheathing Copper, over 12 oz. # 3q, ft. # 25 25c	I C 14x2e
Turkey Oil Stone (Boyd & Chase), to sun, sico w s.  "Sips " \$2.00 %, dis 10 % Lake Superior (Boyd & Chase) \$2.00 %, dis 10 % Lake Superior (Boyd & Chase) \$2.00 %, dis 10 % Sips " \$2.00 %, dis 10 % Grindstones, Family, Loring's dis 10 % Stove Polish. Joseph Dixon's \$2.00 %, dis 10 % Gem \$2.00 %, dis 10 % Gem \$2.00 %, dis 10 % Gold Medai \$2.00 %, dis 10 % Wiffrer" \$2.00 %, dis 10 % Wifferr" \$2.00 %, dis 10 % Wiffrer" \$2.0	Copper Sottoms. # 3 250 No Copper is Sheathing except 14x48 inches and not to exceed a or. to the so, ft.	TERNE PLATE.  Prime Char. 2d quai.  I C 14x2e. 9-59 5-25 5-25  I X 14x3o. 9-7-9  I C 20x28. 11-9 11-0 09 11-25 10.0  I X 20x28. 9 10.0  I C 20x250. 9 17-0  I C 10x20 M. F. Brand. 9.8  SOLDER. NO. 1. 10/9 9 11c No. 2.8  SPELTERT—DUTY: In Pigs, Bars and Pia to No. 2.
Joseph Dixon's. # gross \$6.00, dis 5 %  Gem. # gross \$4.50, dis 5 %  Gold Meda: # gross \$6.00, dis 2 %	14x4%, by the case	SPELTER-DUTY: In Pigs, Bars and Platico Bs. American, cash
Ruby # gross \$5.75, net	For tinning both sides, double the above argount, O'NEILL'S PATENT PLANISHED COPPER. 14.44.	SPELTER — DOTY: In Pigs, Bars and Pial 100 Bs. American, cash Bergen Port from LublighOre Lehigh, on spot. ZINC.—DUTY: Pig or Block, 1.50 ¥ 100 Bs. 25g ₹ B. Sheet. Cask. Open. 65g
Steel	O'NEILL'S PATEST PLANISHED COPPER.  14 and 15 Oz. and heavier. ** ** ** ** ** ** ** ** ** ** ** ** **	Sheet, Cask
Try Squares and T Bevels dis 45,750 Star Try Squares and Bevels dis 5,8 Disston's Try Squares and T Bevels dis 5,8 Vistorshotton's Try and Mitre	14 and 15 oz. and heavier. * * 350: By the case. * * 350:  (And all sizes not over 20 in. wide.)  14 and 16 oz. and heavier. * 35250.	Paper Stock, Old Metal
Balley's Try Squares and T Bevels	14 and 10 of and neaver	Paper Stock, Old Metal:  Canvas linen Cotton, No. 1. No. 2. White linen rags, No. 1. No. 2. Mixed woolens. Succords Mixed woolens. Suft woolens.
Shoe Nails, (new list). dis 10 % Double-Pointed Tacks. dis 40% 5 % Tap Borers.	English Gauge the Standard for Wire.  ERASS MANUFACTURERS' PRICE LIST.—dis 10 %.  July 1, 1878.	White linen rags, No. 1. No. 2.
Ives' Tap Borers. dis tokto f Enterprise Mfg. Co. dis 20 S	Cash prices for Roll and Sheet Brass. For less quantity than 100 Bs. add 30 # B.  HIGH BRASS.  All Nos. not thinner than to No. 28, wider than 2 in.,	Mixed woolens. Soft woolens. Gunny bagging.
Rising Sun. # gross \$4.75, net squares.  Squares.  dis to \$; full cases, dis 50&to \$  2 \$  toon. dis to \$; full cases, dis 50&to \$  2 \$  toon. dis to \$; full cases, dis 50&to \$  5 \$  Nickel Plated. add \$2.50 \$  \$4.00 \$  doz, net \$  Cash Try Squares and Tevels. dis 50.50 Star Try Squares and Bevels. dis 50.50 Star Try Squares and Tevels. dis 50.50 Winterbottom's Try and Mitre. dis 20&to \$  Ealley's Try Squares and Tevels. dis 50.50 Functs, Brads, &c. List of May, 1575. dis 55.50 Shoe Nalls, (new list). dis 10.50 Double-Pointed Tacks. dis 40.53 Tap Borers. dis 10.50 Tapes, Mensuring.  dis 20.50 Tapes, Mensuring.  dis 25.50 Tapes, Mensuring. dis 25.50 Tapes, Mensuring. dis 25.50 Tapernometers. dis 25.50 Thermometers.	All Nos. not thinner than to No. 28, wigge than 9 in., not wider than 14 in	Seconds Mixed woolens. Soft woolens Gunny bagging. Jute Butts. Kentucky bagging. Waite paper and scraps Keneucky bagging. Waite paper and scraps Kone cuttings. Kontucky bals rope. Oakum Junk. No. Grass rope. Tarred shaking. White collar cuttings, all paper. "Euvelope. Hard White Shavings, No. I. Soft "No. I. White Shavings, No. 2. Mixed Shavings, part white. Imperfections, No. 2, best folded sheets. No. I. Heavy Stock Frints. Nowspaper Stock Frints. Nowspaper Stock Frints. Pure Manilla.
Spring Tapes	30 in, inclusive	Kentucky bale rope. Oakum junk, No. 1. No. 2.
All Iron.	Sheets wider than 30 in. and under 40 in	Grass rope Tarred shaking White collar cuttings, all paper.
Truners' Tools and Machines.  Machines (P. S. & W.)	Printers' itules	Hard White Shavings, No. 1.
Traps. Game, Newhouse Pattern. dis 2016 2  "Newhouse Pattern. dis 60810 3	Circular Sheets, in diam. from 4 in. to 14 inclusive 360  1	White Shavings, No. 2 Mixed Shavings, part white. Imperfections, No. 2, best folded sheets
Mouse, Wood, Choker	69 44 49 iB	Book Stock
Tools (P. S. & W.)	go W B more than High Brass. Gilding Metal, so W B more than High Brass. Platers' or Gold Metal Sawed Planed or Polished. 490 Planed or Polished. 490	Newspaper Stock Prints Pure Manilas Bogus Manilas and Hardwares
		Borna Manilas and Hardwares. Communication of the C
Lothrops Brick and Plastering	b advance. Metal, in width 2 in to 2 in., thinner than No. 28, 20. We be advance. Metal, in width 2 in. to 16 thinner than No. 28, 20 W b	Woolen Tailor Clips
Cleffient & Maynard's dis 20 Rose's Brick dis 15 Brades' Brick gold, dis 25 Worrall's Brick and Plastering dis 26 Oggden dis 26	Motal, in width 14 in. to 34 thinger than No. 28, 26 w B Motal, in width 14 in. to 14, inclusive, not thinner than No. 28, 20, w B advance.	Copper, heavy
Putter and Chaosa die at f	Metal, 14 in, in width and less, sec. W b advance.	Woolen Tailor Clips Satinet Copper, heavy Copper Bottoms Yellow Metal. Brass, light Heavy Composition Graph Composition
Vises, Box, Trenton to 160 lbs. 1314c, dis 10 9	Any of the above widths cut to particular lengths, add 7c. 10 b.  GERMAN SILVER MARKET METAL AND WIRE.  Market Metal. Wire.	Old Lead, solid
Vises, Solid Box, Trenton	4 per cent., 12 inch, to No. 36. Market Metal. Wire.  10 10 10 10 10 10 10 10 10 10 10 10 10 1	Old Lead, solid
Parallel, Parker's. dis 25 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	German Silver Sheets over 12 in. wide and weighing	Light Iron
** Merrill's	more than to Bs. \$2.00 ? B. Advance sc. for each additional inch in width above 12 in, and 2c. \$ B on each No. Ulimper than Nes. 25 to	Paints, Oils, &c.
Fisher & Norris dis 15k10  Sitevens' dis 25;  Simpson's Adjustable, dis 25;	gs. inclusive All German Silver thinner than No. 36 is Platers, at 500 W D additional. German Silver Scrap one-half less than not price of	Paints, Casch Painters.
Sargent's   dis obto	All German saver immer than No. 30 is Platers, at 50°C P is additional.  German Silver Scrap one-half less than not price of in Market Metal. German Silver Turnings, Filings and Chips, half the price of Scrap,  Balas Abo Copper Winz.  Gild and  High Brass. Low Brass. Copper,  Mo. 50 50 50 50 50 50 50 50 50 50 50 50 50	Elack Lamp, Ceach Paints.  Elack Lamp, Ceach Painters.  Ordinary.  Ivory Drop, fair.  Black Paint, in oll
Lowell Hand Vises doz \$17.50 dis 10	No.0 to 20	Blue, Prussian, fair to best

Γ	HE IRON AGI	C.
1	No.2239 45 .12 No.22,	Blue
	No. 2435 .50 .55	Brog
	No.27 43 47	Gree
	NO, 20. 47 51 61 NO, 30. 54 61 NO, 30. 53 57 57 57 NO, 31. 57 61 73	fron
	NO. 23	Aron
	No 4	
		Mine
	not less than 2 feet lengths, 38c. Wire and Rods less than 2 feet lengths, special rates.	00 00 00
	Drass Rods, No. sand larger not less than 1 evelongths, 30c. Wire straightened and out, smaller than No. 8, and olies than 2 feet lengths, 38c. Twelve cents per beatra for specifing out 1 % special rates. Twelve cents per beatra for specifing out 1 % special rates. Common Plain Brass Pall Ears.  \$2.35 Brass Door Rail.  2.8	Rose
1	High Brass Scrap. SCRAP.—net.	16
	Low ".130 Gliding	Uml
	Terms—Net cash. Interest to be added after thirty days.	Veri
	Plain to No. 20 inclusive, above 34 in. to 3 in	Whi
	Number. Nos. 24, 25, 26, four cents advance on List for each	Wh
	above 3 in. 68 Nos. 21, 22, 22, two cents advance on List for each Number. Nos. 24, 25, 26, four cents advance on List for each Number. Above No. 26, special rates. Plain, 14 inch	Yell
	3-16 1.05 All Mandrel Drawn Tubes, 5 cents advance on List	Zine
	Fancy Tubing to No. 20	-
	to No. 20. Tubing Sawed or Cut 2 to 4 feet long, 2 cents advance on List.	Lin
	Add to 2 cents % cent for each additional cutting under 2 feet.	Blee
	pound advance.	Sign
9	Fancy	Wes
0	4 Per cent	Em
9	9 11 1.00	Fisi Nea Tal
0 0	15	Eng
000	STEEL.—DUTY: Bars, Ingots, Sheets and Colis- valued at 7 cents \$\psi\$ B., or under, \$4\forall cents; over, 7 cents, and not above 11, 3 cents \$\psi\$ B.; over 11, 3 forall \$\psi\$ B.	T
0	\$\pi\$ and to \$\pi\$ ad val. Railway Bars, 14 cents \$\pi\$ b. Railway Bars, in part Steel, 1 cent \$\pi\$ b. Provided.	1
8	that Metal cemented, cast or made from Iron by the Bessemer or pneumatic process, of whatever form or description, shall be classed as	2000
×	American Cast Steel.	
	Homogeneous. 12/26 Boiler Plate. &	
d e	Machinery (round and square) 90	
5	Saw Plate, mill and mulay 14 @ 10 00 14 gang and X cut 13 @ 14	
99	Sheet	
0.0		
0	Gun or Homogeneous. \$ 5 12 @ 160 English Steet.—Payable in gold, net.  Best Cast. \$ 5 15/66	
9 9	Extra Cast	
10	Blest Double Shear \$ 5 5% Blister, 1st quality \$ 5 13c	1
	" ad quality # b toc	
e	Spring. \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
e	Pine and Sheet also we have ma; old Lead, 1960 m w	
0	Har to die to	
١.	Pipe	
-	N. P. U	
	TIN.—DUTY: Plates, Sheets, Tagger and Terne, I.I.C § b; Electro-galvanized Plates, sc @ b; Manufactures	
9999	and Pigs free. Banca, subject to duty of 10 per cent Banca. P B 18% @ 196	1
00000	English	
200	1 C 10x14 13x12 14x20 1 X 10x14 12x12 Prime Charceal	1
d	12 12 12 Prime Charceal 8.00 @ 8.2	T
t.	D V 1326 17 " " C. 66 5 7	
9	Best, ad quality, Ordinary	
99999	I C 10X14   1 C 12X12	. 0
90	I C 12X12   \$5.75	1
95555	I C 20X25	,
ic it	I C 20X200	
ie ie	SPELTER—DUTY: In Pigs, Bars and Plates, \$1 \) 100 Bs. American, cash	
	American, each American, each Burgen Port from LehighOre	1
je ke	2位を形 b. (Cask	S
96		1 1
le le	Paper Stock, Old Metals, &C	
d	Canvas linen	66 ]
*	Seconds	
n-	Mixed woolens   2½ @ 3½   Soft woolens   8½ @   Gunny bagging   334 @	G
ye.	Jute Butts 3 4 3k Kentucky bagging 5 4 Wester paper and scraps 5 4	
9C	Rope cuttings 114 3 3 Kentucky bale rope 4 3 4 4 6 8 8	
Be .	Grass rope No. 2	-
10	White collar cuttings, all paper	
ici ici	Hard White Shavings, No. 1. 4 G Soft No. 1 314	
10	Grass rope   Gra	-
ic oc	Book Stock 33 4 35	1
je	Newspaper Stock 154 & 15	1
)C	Pure Manilas and Hardwares 29 Commons 49	1
÷	Binders' Board Cuttings.	
h	Satinet "Old Metal. 2 22	
n P	Copper Bottoms 123, Yellow Metal 13	1
	Imperfections, No. 2, best folded sheets. 34 & No. 1. Heavy Stock 35 & 36 & No. 2. Heavy Stock 35 & 36 & No. 2. Heavy Stock 35 & 36 & No. 3. Heavy Stock 35 & 36 & No. 3. Heavy Stock 35 & 36 & No. 3. Heavy Stock 35 & 36 & 36 & 36 & 36 & 36 & 36 & 36 &	1
id	Old Lead, Solid. G 25 Tea Lead. G 25 Zinc. G 35	
e. 70 70 88 05	Wrought Iron. Der ton 817.0	N
98 05 13	Michinery Iron per ton 110 Light Iron per ton 100 Stove Plate Der ton 100	9
13 14	Stove Plate per ton 10,0 Grate Bars. per ton 4,0	6
0	Dainta Alla fo	

-	.,					~ •
						=
3	Blue Chinese dry830	Sundr	les.			
5	" Ultramarine	Asph atum Densine Chaik Block Block Dryer, Patent, Am'n ass't cans, 1046; keg, or			So .	
3	" Van Dyke10@13c	Chaik				
3	Green Chrome 15 62 230	Block.				
3	" in oil	Prostings			eg, ger	
,	Parisgood 25c; best, 30c	Glue, White			33	@ 410
3	fron Paint, Bright Red	Glasiers' Points Zine	******	******	******	306
2	" Red # B 20	Gum, Copal	*******			36@
6	Purple. # B 30	Damar		******		25@
	Ground in Oil, Bright Red # 5 5/90	Bheilac, English dark	******	******		300
1	Red # D 50	Litharge, Englisgh	*******		9	gola
1	" Purple W m 6c	Pumie Stone relected Luron	*******		B 154	0 110
		Frostings Glue, White.  Sheet. Glasters Points, Zinc Gum, Copal.  Damar.  Shellac, English.  Litharge, English.  Mineral Wool. Pumie Stone, selected Lump powdered.  Putty, in bladders.  "  putty, in bladders.  "  putty, in bladders.		*******	*** ****	2%(0
	Dod Load American 146	Putty, in bladders	******	******	****	2560
ч	" English916c gold	Rotten Stone, soft, English.		******	******	BC.
. ]	" Venetian (N. C.) dry	" in bulk			******	. 296
	** English	Whiting Spanish		******		
5	Rose Pink	Glas				
8	Burnt	FRENCH WIND	OW GL	ASS.		
	" in oil	Prices current pe	r bez o	f so fee	t.	
C	Umber, Burnt			-		-
3	Raw	Single Thick.—d	iscoun	t bodts	%	
y	Raw	SIZES.	ıst.	ad.	3d. )	4th
	" in oil. 10 (& 10 (& 10 (& 10 ))  Permillion, Chinese. 90c, gold  "English 90c, gold  "Trieste 1.10, gold  "American, Common 15c  White Lead, American, pure dry 3c  White Paris, English, prime 1n bbls 2 (& 3)c  Yellow Ochre, French 8,7  "Vermont In cask 14c  "Vermont In cask 14c  "Vermont In cask 14c	6 X 8 to 10 X 15	8 2.50	8 5.70	\$ 6.25	
8	English	11 x 14 to 16 x 24	8.50	7-75	7.2% 8.74	6.50
8	" American, Common18c	13 X 32 to 20 X 30	10.75		9.00	4.46
	White Lead, American, pure dry8c	15 X 36 to 24 X 30	12.00	11.50		
	White, Paris, English, prime	26 x 37 to 26 x 44	14.50	13.25	80,75	
	Yellow Ochre, French	26 X 46 to 30 X 50,	15,00	14.00	11.35	
5	" Vermont	30 x 56 to 34 x 56	17.25	15.50	13.50	
15	Yellow Chrome	30 X 52 tO 30 X 54 30 X 55 tO 34 X 56 34 X 58 tO 34 X 60 36 X 60 to 40 X 60	18,25	17.35		
15	In oil	30 2 00 00 40 2 0001				
	No. 1, in oil	Double Thick.—	Discon	nt toak	155	
C	French (Paris)	SIZES.	181.	ad.	3d.	41 0.
0	Olla.	A	A		A	-
	Linseed, Raw, in casks and bbis. \$\Pi\$ gal. 50c & 6ac \$\pi\$ Boiled. \$6ac & bc \$\pi\$ Bleached Whale. \$\Pi\$ gal. \$1.00 \$\pi\$ gall \$1.00 \$\pi\$ ga	6 x 8 to 10 x 15	13.75	\$11.00		
	" Botled. " " 10 650 & 670	18 x 22 to 20 x 30		15.75	14.00	
	Bleached Whale	18 X 22 TO 20 X 30. 15 X 36 TO 24 X 30. 26 X 26 TO 24 X 36. 26 X 26 TO 26 X 34. 26 X 36 TO 26 X 34. 26 X 36 TO 30 X 54. 26 X 36 TO 30 X 50. 30 X 52 TO 30 X 54. 30 X 50 TO 30 X 54. 30 X 50 TO 30 X 54. 31 X 55 TO 34 X 56.	19.75	17.25	14.50	
	" Elephant	26 x 36 to 26 x 44	33.25	21.25	17.25	
	Signal540	36 x 46 to 30 x 50	25.75	23.50		
2	No. 1 " 530 West Virginia 180 @ 250	30 X 52 to 30 X 54	27.74	25.00	21.75	
3	West Virginia	34 × 58 to 34 × 60	29.25	27.75	34,00	
	Drilling 450 Empire Cylinder 640	30 X 00 to 40 X 00		30.00		-
5	Miners' Oil35 to 450	Sizes above 40 x 50-\$10.00 five inches.	per b	OX 6X	tra for	SAGER
io.	Miners Oil	An additional to per cent	will !	be cha	rged i	or al
0	Tallow bac	Glass more than 40 inches	wide.	All ni	mos ab	OTO CO
15	Machinery 400 Engine 500	inones in length, and not me	e 84 un	ited in	ches by	anired
15	A. A	, menter with our change in the				
6,				-		
7	LIDDICHT CELE FEE	DING DDILL	C		-	
b.	UPRIGHT SELF-FEE	DING DKILL	J. D.	(		
1,	-					

Sundri	es.			
Asph atum				. our
Benzine				al. :6e
Chaik				80
" Block Dryer, Patent, Am'n				40
Dryer, Patent, Am'n	J'ess.	cans, I	0)40; k	eg, 90
Frostings				506
Frostings. Glue, White			33	@ 415
Glaziers' Points, Zinc	*******		*******	306
Glaziers' Points, Zinc	*******			
Gum, Copal	******		×	304
Damar.		******	*	250
" Shellac, English dark		******		900
Litharge, Englisch		*******	00	gold.
Litharge, Englisgh Mineral Wool Pumic Stone, selected Lumps		¥	B 134 0	a Ilai
Pumie Stone, selected Lumps	B			4 @ 6
powdered				2960
Putty, in bladders	*******	******		2566
" in bulk		******		R
Rotten Stone, soft, English	******	******	******	86
Spirits Turpentine Whiting Spanish			******	
			******	****
Glas				
FRENCH WINDO	W GL	ASS.		
Prices current per	r oex o	r so ree	6.	
				-
Single Thick,—d	iscoun	t óolts		
Single Thick,—d	iscoun	t óolts		4th
SIZES.	ıst.	ad.	% 3d.	
SIZES.	18t. 8 7.50	2d.	3d. \$ 6.24	8 5.2
8IZES.  6 X 8 to 10 X 15	18t. \$ 7.50 8.50	ad. 8 6.75 7-75	3d. \$ 6.24	8 5-7
8IZES.  6 X 8 to 10 X 15	19t. 8 7.50 8.50 10.75	2d. 8 6.75 7-75 9-75	3d. \$ 6.24 7.25 8.74	8 5-7
SIZES.  b x 8 to 10 x 15	18t. \$ 7.50 8.50	2d. \$ 6.75 7.75 9.75 10.75	\$6.24 7.25 8.74 9.00	8 5-7
SIZES.  b x 8 to 10 x 15	19t. \$ 7.50 8.50 10.75 12.25	2d. \$ 6.75 7.75 9.75 10.75	3d. 8 6.24 2.25 8.74 9.60 9.75	8 5-7
SIZES.  b x 8 to 10 x 15	19t. \$ 7.50 8.50 10.75 12.25 13.00	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25	3d. \$ 6.24 2.25 8.74 9.00 9.75 10.74	8 5-7
SIZER.  0 X 8 to 10 X 15	19t. 8 7.50 8.50 10.75 12.35 13.00 14.50 15.00 16.63	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25 14.00 14.50	\$ 6.24 2.25 8.74 9.00 9.74 11.24 12.00	8 5-7
SIZER.  b	18t. 8 7.50 8.50 10.75 12.25 13.00 14.50 16.63 17.25	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25 14.50 15.50	\$ 6.24 2.25 8.74 9.74 9.75 10.76 11.25 12.00 13.50	8 5.7
SIZER.  b	19t. \$ 7.50 8.50 10.75 12.25 13.00 14.90 15.00 16.63 17.25 18.25	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25 14.50 14.50 17.35	\$ 6.24 2.25 8.74 9.60 9.74 10.44 11.24 12.00 13.50	8 5-7
SIZER.  0 X 8 to 10 X 15	18t. 8 7.50 8.50 10.75 12.25 13.00 14.50 16.63 17.25	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25 14.50 14.50 17.35	\$ 6.24 7.25 8.74 9.50 9.75 10.76 11.25 12.00 13.50	8 5-7
SIZER.  b	7.50 8.50 10.75 12.25 13.00 14.50 16.63 17.25 18.25 20.76	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25 14.50 15.50 17.35 18.75	3d. ) 8 6.24 7.25 8.74 9.90 9.75 10.76 11.25 12.00 13.50 15.90	8 5-7
SIZER.  0 X 8 to 10 X 15	7.50 8.50 10.75 12.25 13.00 14.50 16.63 17.25 18.25 20.76	2d. 8 6.75 7.75 9.75 10.75 11.50 13.25 14.50 15.50 17.35 18.75	3d. ) 8 6.24 7.25 8.74 9.90 9.75 10.76 11.25 12.00 13.50 15.90	* 5.7 6.5
SIZES.  5 X 8 to 10 X 15	19t. 8 7.50 8.50 10.75 12.25 13.00 14.50 15.00 17.25 18.25 20.74 Discoul	2d. 8 6.75 7.75 9.75 10.75 11.50 13.24 24.50 15.50 17.35 18.75 nt bolk:	\$ 6.24 7.25 8.74 9.90 9.75 10.74 11.25 12.00 13.50 15.00	\$ 5.7 6.5
SIZER.  0 x 8 to 10 x 15	18t. \$ 7.50 8.50 10.75 12.35 13.00 14.60 15.00 16.63 17.25 20.75 Discoul	# 6.75 7.75 9.75 10.75 11.50 14.50 14.50 15.50 17.36 18.75 nt boks	\$6.24 7.25 8.74 9.00 9.76 10.76 11.25 12.00 13.50 15.00 15.00 15.00 15.00 15.00 15.00	# 5.7 6.5
SIZES.  b x 8 to 10 x 15	18t. \$ 7.50 8.50 10.75 12.25 13.00 14.50 15.00 16.63 17.25 18.25 20.75 Discoul 18t.	2d. \$ 6.75 7.75 9.75 10.75 11.50 14.50 14.50 17.35 16.75 nt bok:	\$ 6.24 7.25 8.75 9.75 10.76 11.35 12.00 13.50 15.00 14.75	# 5.7 6.5
SIZER.  0 X 8 to 10 X 15	## 7.50 8.50 10.75 12.25 13.00 14.50 15.00 16.63 17.25 18.25 20.76 Discoul ## 18t.	2d. \$ 6.75 7.75 10.75 11.50 13.24 14.00 14.50 17.25 18.75 nt bok:	\$ 6.24 7.25 8 6.26 7.25 8.75 10.76 11.35 12.00 13.50 13.50 15.70 1	# 5.7 6.5
SIZES.  b x 8 to 10 x 15	## 7.50 8.50 10.75 12.25 13.00 14.50 15.00 16.63 17.25 18.25 20.76 Discoul ## 18t.	2d. \$ 6.75 7.75 10.75 11.50 13.24 14.00 14.50 17.25 18.75 nt bok:	\$ 6.24 7.25 8.74 9.00 9.75 10.75 11.35 12.00 13.50 13.50 15.00 16.75 14.00 14.76 14.00 14.50	# 5.7 6.5
SIZER.  0 X 8 to 10 X 15  11 FT4 to 16 X 24  13 X 24 to 20 X 25  15 X 36 to 24 X 35  25 X 36 to 24 X 36  26 X 36 to 36 X 36  27 X 36 to 36 X 36  28 X 36 to 36 X 36  29 X 36 to 36 X 36  Double Thick.—I  BIFES.  6 X 8 to 10 X 15  11 X 14 to 16 X 24  18 X 25 to 20 X 36  18 X 26 to 24 X 36  26 X 36 to 24 X 36  27 X 36 to 24 X 36  28 X 36 to 24 X 36  28 X 36 to 24 X 36	87.90 8,90 10.75 12.25, 13.00 14.50 15.00 16.63 17.25, 20.75 Discoul	2d. \$ 6.75 7.75 10.75 11.50 13.24 14.00 14.50 17.25 18.75 nt bok:	\$6.24 7.25 8.74 8.74 9.75 10.76 11.35 12.00 13.50 15.00 14.00 14.00 14.50 14.50 14.50 14.50 14.50 14.50	# 5.7 6.5
SIZES.  b x 8 to 10 x 15	18t. 8 7,50 8,50 10,75 12,35, 13,00 14,50 15,00 16,63 17,25 20,75 Piscoul 18t. 812,00 13,75 17,25 10,75 21,00 13,75 17,25 10,75 21,00	# 6.75 7.75 9.75 10.75 11.50 13.25 14.50 15.50 17.35 18.72 nt bolk:	\$ 6.24 7.25 8 6.24 7.25 8 7.4 9.75 10.75 10.75 12.00 13.50 13.50 15.00 14.90 14.90 14.90 14.90 14.75 17.25	# 5.7 6.5
SIZER.  0 X 8 10 10 X 15	18t. \$ 7.50 8.50 10.75 12.25 13.00 14.50 15.00 17.25 18.25 20.75 20.75 21.00 23.75 19.75 21.00 23.75 21.00 23.75 21.00 23.75 21.00 23.75 24.00 23.75 24.00 25.75 26.75 27.00 27.	# 6.75 7.75 9.75 10.75 11.50 13.25 14.50 15.50 17.35 18.72 nt bolk:	3d. \$ 6.24 7.25 8.74 9.74 10.74 12.00 13.50 15.00 14.75 14.00 14.50 14.75	# 5.7 6.5
SIZER.  5 X S to 10 X 15	18t. 8 7.90 8.50 10.75 12.25 13.00 16.63 17.25 18.25 20.75 Discoul 18t. 812.00 13.75 17.25 10.75 21.00 25.75 24.00 25.75 27.74 27.74	2d.  8 6.75 7.75 9.75 10.75 11.50 13.24 14.50 14.50 17.35 18.74 2d.  811.00 13.59 15.75 17.25 18.50 21.25 22.50 23.35 24.50	\$ 3d. \$ 5.24 7.26 8.74 9.70 9.77 10.76 11.26 13.50 13.50 15.90 15.90 14.50 14.75 14.00 14.75 17.25 18.00 14.75 17.25 18.00 19.76	# 5.75 41 b.
SIZER.  0 X 8 10 10 X 15	19t.  8 7.50 8.50 20.75 12.25, 13.00 14.50 15.00 16.63 17.25, 18.25 20.74  Discoul 18t.  812.00 23.75 21.00 23.25 24.40 25.75	2d.  \$ 6.75 7.75 9.75 10.75 11.50 13.24 14.50 17.25 16.75  nt bok: 2d.  \$11.00 12.50 12.50 21.25 22.50 23.25	\$6.24, 2.25, 8.74, 9.00, 9.75, 10.76, 11.35, 12.00, 13.500 15.00 11.75, 14.00 14.50 14.75, 14.50 14.75, 14.50 14.75, 14.50 14.75, 14.50 14.75, 14.50 14.75, 14.50 14.75, 14.50 14.75, 14.50	# 5.7 5.6 7 7 7 8 9.1 10.5



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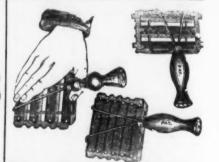
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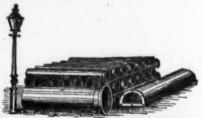
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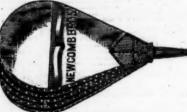


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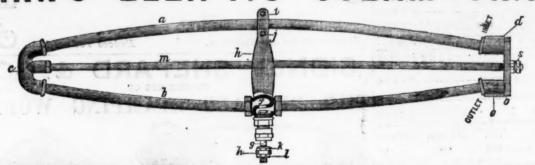
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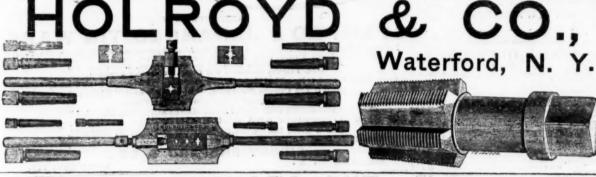
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(No. 235.)

# INTERNATIONAL EXHIBITION.

PHILADELPHIA, 1876.

The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith.

Philadelphia, November 8, 1876.

# REPORT ON AWARDS.

Product: Iron, Brass and Steel Screws, Tire and Stove Bolts, Rivets. Name and address of Exhibitor: American Screw Company, Providence, R. I.

The undersigned having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award, for the following reasons, viz Being of aquality nearly approaching perfection, showing the highest attainment in this branch of manufacture. G. L. REED. Signature of the Judge.

Approval of Group Judges.

Daniel Steinmetz, Jas. Bain,

J. Diffenbach, G. L. Reed, Dav. McHardy.

J. D. Imboden,

Chas. Staples,
A true copy of the record. Francis A. Walker, Chief of the Bureau of Awards.
Given by authority of the United States Centennial Commission. A. T. Goshorn, Director-General.

J. L. CAMPBELL, Secretary.

J. R. HAWLEY, President.







After forty years' experience we offer to the trade our Centennial Screws, patented May 30, 1876, as the best we have ever known.

The method of manufacturing is also patented, and we are changing our machinery as fast as possible, to manufacture the improved article only. To introduce them, they will be sold at the same price as the old style screw.

The new screws will be packed in manila colored boxes with the new label covering end of box, and enlarged figures showing plainly contents.

To distinguish this screw we have adopted a trade-mark, which is also secured to us.

The accompanying engravings show the progress of making screw from the old blunt point to style now adopted.

Experience has shown that the weak point of screws, as formerly made, is at the heel of the thread, where all 1846.

Section at Line E



Section at Line C I

Section at Line E F

CLAIM.

"A Pointed Wood Screw having the outer periphery of the thread upon its body cylindrical, while a portion of the body below the thread and near the neck is conical, the remainder of the body to the point being cylindrical, and yet having all the thread brought to an edge of a constant angle, without jogs in the paths between the threads, substantially as described."

the strains of forcing the screw into the wood naturally concentrate.

To avoid the sharp angle existing in the old style of screws has been the aim of all manufacturers, but every expedient hitherto adopted has proved as objectionable as the evil complained

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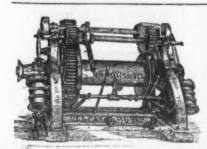
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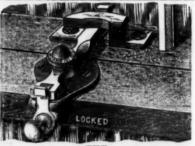
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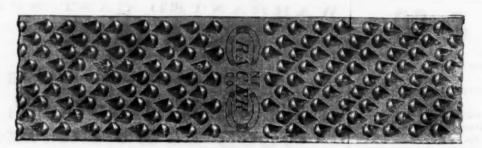
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Meat Cutters	900
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Butcher	8.00
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2 4	PITTSBURGH.	5-1
SANSON PARES	Merchant Iren.   Flat Bar.   1\( \) to 4x\( \) to 1 in	Ju St Ti
********	Heavy Bands.  1 to 13(x)4 and 5.162.00  14 to 5(x)4 and 5.162.00  14 to 5(x)4 and 5.162.00  14 to 5(x)4 and 5.162.00  15 to 25(x)4 & 5.16 in2.00  15 to 25(x)5 to 5.16 in2.00  15 to 25(x)5 to 5.16 in2.00  15 to 25(x)5 to 5.16 in2.00  16 to 25(x)5 to 5.16 in2.00  17 to 25(x)5 to 5.16 in2.00  18 to 25(x)5 to 5.16 in2.00  19 to 25(x)5 to 5.16 in2.00  19 to 25(x)5 to 5.16 in2.00  10 to 25(x)5 to 5.16 in2.00  11 to 13(x)5 to 5.16 in2.00  12 to 3(x)5 to 5.16 in2.00  13 to 25(x)5 to 5.16 in2.00  14 to 3(x)5 to 5.16 in2.00  15 to 25(x)5 to 5.16 in2.00  16 to 3(x)5 to 5.16 in2.00  17 to 3(x)5 to 5.16 in2.00  18 to 3(x)5 to 5.16 in2.00  19 to 3(x)5 to 5.16 in2.00  10 to 3(x)5 to 5.16 in2.00  11 to 3(x)5 to 5.16 in2.00  12 to 3(x)5 to 5.16 in2.00  13 to 25(x)5 to 5.16 in2.00  14 to 3(x)5 to 5.16 in2.00  15 to 3(x)5 to 5.16 in2.00  16 to 3(x)5 to 5.16 in2.00  17 to 3(x)5 to 5.16 in2.00  18 to 5(x)5 to 5.16 in2.00  19 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  19 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  19 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  10 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  10 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  11 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  12 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  12 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  13 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  15 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  16 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  17 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  18 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  19 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  10 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  11 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  12 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  13 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  15 to 5(x)5 to 5(x)5 to 5(x)5 in2.00  16 to 5(x)	As as as a second Line Dr.
-	Hoop from. 15 to 16.450c \$6.0-16, Nos. 17 to 20.4.80c \$6.0-16, Nos. 15 to 16.450c \$1.0-16, Nos. 15 to 16.450c \$1.0	di fr be
Bush as Dan . D	74 to 14 in	6 11 18 15 20 26 26 26 26 26 26 26 26 26 26 26 26 26
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ld ld	No. 21 to 24.73/243c, "Nos. 21 to 24	glinin
% et	- to to to to to to a to a t	T
** *** **	Equal Sided, 1x1 to 15x15/6 11.	
13 13 15 16 16 16	10d to 6od	B Sn Z
han a	Tobacco Hhd. 8d. 3.25 Colorab All sizes 3.00 6d and 7d. 3.50	B
% 00	\$\frac{\text{Starting.}}{\pmu}\$ \$\frac{\text{Starting.}}{\pmu}\$ \$\frac{\text{3.50}}{\pmu}\$ \$\frac{\text{3d}}{\pmu}\$ \$\frac{\text{5.50}}{\pmu}\$ \$\frac{\text{Starting.}}{\pmu}\$ \$\frac{\text{1/6}}{\pmu}\$	8

Saah   Iron, 18(x)(xy-16.
Pence and Brade.
8d and 9d 2.75 9d 4.00 5d and 7d 3.00 2d 5.25 \$\frac{\pmathbb{\text{d}}{\pmathbb{\text{in}}} & 4.00 \\ \$\frac{\pmathbb{\text{d}}{\pmathbb{\text{in}}} & 4.50 \\ \$\frac{\pmathbb{\text{d}}{\pmathbb{\text{in}}} & 4.50 \\ \$\frac{\pmathbb{\text{d}}{\pmathbb{\text{in}}} & 4.50 \\ \$\frac{\pmathbb{\text{d}}{\pmathbb{\text{d}}} & 4.00 \\ \$\frac{\pmathbb{\text{d}}{\pmathbb
\( \frac{1}{1} \), \( \frac{4.50}{5.00} \) \( \frac{1}{1} \), \( \frac{4.00}{5.00} \) \( \frac{1}{10} \), \( \frac{5.50}{5.00} \) \( \frac{1}{10} \), \( \frac{5.50}{5.00} \) \( \frac{1}{10} \), \( \frac{1}{
34 in
Tobacco Hhd.   8d 9.25
Clinch—All sizes 4.25
9d. Slatting. 4d. 3-50 3d. 4-75 4d. 3-50 3d. 4-75 4d. 5-50 3d. 4-75 1 in. 7-50 2 in. 4-50 134 1 6.50 24 134 1 6.50 24 135 1 and over. 5-75 136 1 3-75 140 150 3d. 3-25 14d. 4-75 15d. 5-75
Cut Spikes-All sizes 2.75
Trans.—Neach half keg 10 cents extra.  Trans.—Note or acceptance at 50 days; or a discount of 1 per cent. for cash, i remitted within 10 days from date of invoice. An abatement of 10 cents per keg allowed upon orders of 30 kegs or over.  **Regi.**  **Square, Fint and Octogon Tool Steel.**  **to 3 in

٠.	79 to 2 ill
	5-16 and 216 to 1 in 8160 3-16 and 614 to 6 in rate
1	98 to 1 in 75%   9-32 and 45 to 5 in 105   54 and 35 to 4 in 056   5-32 in 125   Cast Spring Steel 15% to 3x5-32 to 3-16 in 75   1 to 4x54 to 54 in 656   54 to 3x5-32 to 3-16 in 75
9	Cast Spring Steel 164 to average to and to all
6	7 to 4814 to 14 17 6140 74 to 14/24 an to a st 17 60
6	* and design and his security abids 1 his an thirty-21 to 3-10 TO"055
	Solid Cast Steel Plow, 4 to 16 by 3-16 to 36 in 20
2	"Iron Center Plow," 4 to 16x2-16 to 14 in.
1	"Iron Back Plow," 4 to 16x2-16 to 36 in 814
ō	Solid Cast Steel Plow, 4 to 16 by 3-16 to 34 in. 70 "Iron Center Plow," 4 to 16x3-16 to 34 in. 8c "Iron Back Plow" 4 to 16x3-16 to 34 in. 8d Soft Steel Center Plow, 4 to 16x3-16 to 34 in. 8d Soft Steel Center Plow, 4 to 16x3-16 to 34 in. 9c
	Landside and Cultivator, C. S., in thick
	Circular Plow Coulters, 5-32 to 1 in. thick
	Bonnon and Couthe
ü	Reaper and Scythe130
	Fork and Hoe
Б	Horse Rake Teeth, tol ength 8c
?	
	Cutter Bars, C. S 80
	" " German Spring Steel
	Cutter Bars, C. S. S. Cornstalk Cutter beveled to length.
Ē.	Planters' Hoe, C. S 90
	Hoe, C. S 73
5	Sheet Steels,
	German, 10 to 16 g Se   Common C'st, 17 to 20 g .10
1	Common Cast Cont 17 to 20 g. 10
	" 17 to 20 g11c Best Cast, 10 to 16 g12 Common C'st, 10 to 16 g
t	Common C'st, 16 to 16 g. 90   " 17 to 20 g14
•	Rolls and Castings.
	Furnace, Floor and Straightening Plates +34 @
	Housings and Castings not otherwise specified 24
1	Guide Plates
31	Spindles and coupling boxes @ 214
9	Sand Rolls and Pinions, large size
t	wante avoid direct a mitoria, mirks sixe
t I	The Will Continue small size3
	Pipe Mili Castings

	17 to 20 g Best Cast, 10 to 10 g
	Common C'st, 10 to 16 g. 90 " 17 to 20 g140
et	Rolls and Castings.
	Furnace, Floor and Straightening Plates 1 20 20
39	Housings and Castings not otherwise specified24C
8	
SWE T	Guide Platos3 C
29	Spindles and coupling boxes 2 @ 24c
at I	Sand Rolls and Pinions, large size
e# I	small size3 C
31	Pipe Mill Castings
	Rolling Mill Castings under 50 lbs C
2	spir and bever wheels, large
3	" small 4 @ 412e
70	Pullers up to so inches
0	" OVER 30 Inches
2	Engine Castings, Light
25	heavy
23	Chilled Rolls.
25	6 to 7 in. diam., 2 to 20 in. long 6 c
29	# to is in. " # to so in "
et i	15 to 24 in. " 15 to 72 in. "
et	24 to 31 in. " 72 to 108 in. "
33	Heavy Hardware.
39	
et	Bolts, Screws, Nuts, etc.
p.e.	Towis Oliver & Phillips discount of Standard T.

-		
Market Committee of the	Pat. Hot Pressed Sq. and Hex. Nuts	
	Wagon Hardware.	
	Single Trees, Neck Yokes and Double Trees, made from best selected hickory, and ironed complete, in the most approved patterns.  No. 1 Southern Plow Single Tree, Ironed complete, Irons all Wroughteach, 24c net No. 2 Western Plow Single Tree, Ironed complete, Irons all Wroughteach, 25c net	

į	No. 1 Southern Plow Single Tree, Ironed	
J	complete, frons all Wroughteach, 250 m	a
į	No. 2 Western Plow Single Tree, Ironed	1
١	complete Irone all Weaught	
i	complete, Irons all Wroughteach, 350 n	9
1	No. 3 Wagon Single Tree, Iron complete,	
1	Irons all Wrought, except Malleable Fer-	
I	ruleeach, soe n	ä
1	No. 4 Wagon Single Tree, Ironed complete.	
1	Irons all Wrought; Improved End Pieces	
1	riveted on; one side acts as a wear iron	
ı	for wheel to rub againsteach, 500 n	_
ı	Neck Yoke, Ironed complete, Irons all	4
ı	Neck 10ke, froned complete, frons all	
ı	Wrought except End Ferrules, with Wt.	
ı	Iron Ringseach, for n	ä
ı	Southern Plow Double Tree, Ironed com-	
ı	piete, irons all Wrought each see n	a
Į	Wagon Box Strap Bolts-	7
ı	For orders of 100 Set, 442 to % dis.	
ı	to in long by a st at Server Bud. It and a best	
ı	to in. long by 7-16 at Screw End, # set of 8 bolts 4	ĕ
1	12 in. " 16 " " 8 " . 5	á

to in.	ong by	7-16 at 8	of 100 Set, 4 crew End,	P 805	of 8	bolt	s.
so in.	0.0	20	44	**	8	**	
12 in.	98	9-10	60	**	- 5	0.0	
84 in.	01	0-16	64	64	. 9	91	0
ro in.	0.9	210	61	0.0	- 8	**	
12 in.	68	62	66	68	0	0.5	
14 in.	60	62	68	08	- 8	44	
16 in.	66	62	0.0	0.6	- 8	04	
r8 in.	0.0	62	60	69	- 6	09	0
so in.	0.0	62	99	18	9	68	
ton W not	for eac	h addies	ional inch	OWAR I	. 1	naha	

-	Chains, Straight or Twist Link,
	Reiter & Morton's List.
	5-16
	36
	7-16
	7-16
	Herse Shees, EtcIn 100 keg lots.
90	Juniata Horse Sheesper keg, \$3.50
	Mule "450 "Roadster" pattern "375 Steel Tag Caller
90	" Roadster" pattern " 2.75
20	Steel Tee Calksper 2160 lb.
90	"Roadster" pattern
96	Shoesper keg, \$5,25
00	Shoesper keg, \$5.25 Thistlewood & Co.'s Self-Sharpening Snow
00	50006
oc	Toe Calkspor lb. 8c
00	White and Red Lead.
	Assorted Kegs (all sizes)
00	25 D Tin Pails, 100 D Cases
00	12% DTin 4 4
	Red Lead
00	Orange Mineral 9kc; " 9 c.
OC	Litharge " bkc; " bkc.
90	Dry White Lead " 75c; " 75c.
	Orange Mineral 18 kps, 6%c: (in barrels, 6%c. Orange Mineral 9 c. Litharge 6%c: " 5%c: " 5%c. Dry White Lead " 7%c: " 7%c. " 7%c. White Lead in Oil in lots of less than 500 lbs., %c additional
oc ·	
oe.	Terms: Note at sixty days, or if paid within 15 days from date of invoice, a discount of 114 per cent. will
90	from date of invoice, a discount of 114 per cent. will

Per Box of 50 Feet Discount 75 %.		V	Viz	ad	ow Glass.
	Por	Box	of	50	Feet Discount 75 %.

Single Stren	gth.			
Size.	AA.	Δ.	В.	C.
6 x 8 to 10 x 15	87.50	86.75	86.25	85.5
I X 14 to 16 X 24	8.50	7.75		6.5
18 X 22 to 20 X 30	10.75	9-75	8.75	7.7
15 X 36 to 24 X 30	12.25	80.75	0.00	
6 X 26 to 24 X 36	13.00	11.50	9-75	
16 X 36 to 26 X 44	14.50	13.25	10.75	
16 X 46 to 30 X 50	15.00	14.00	11.25	
10 X 52 to 30 X 54				
∞ x 55 to 34 x 56				
4 X 58 to 34 X 60	1		- 1	
6 x 60 to 40 x 60	-	-	1	
Double Strength.				
6 x 8 to 10 x 15	12.00	17.00	10,00	2
1 X 14 to 16 X 24	13.75	\$2,50	11.74	10.5
18 X 22 to 20 X 30	17.25	15.75	14.00	
5 X 30 to 24 X 30	19.75	17.25	14.50	
16 X 28 to 24 X 36	21.00	18.40	15.75	
10 X 30 to 20 X 44	23.25	21.25	17.25	
6 X 46 to 30 X 50	24.00	22.40	18,00	
O X 52 to 30 X 54	25-75	23.25	19.25	
o x 65 to 34 x 66	27.75	25.00	21.75	
14 X 58 to 34 X 50	20.25	27.75	24.00	
14 x 58 to 34 x 50.	33.25	30.00	27-75	
		-		-
An additional so per cent.	will b	g cha	rged f	or a

### CHICAGO. (The Chicago Stamping Co., 10, 12 & 14 Lake St.) August 9, 1678,

Tin Plate	-	149000	IFY C	ht Hone	1 4 mm
Tin Plate 10x14. [C.Ch'l. Good. 1	16.95	14x20	XXX "	W. Ticae	11 50
	6.50	DC 100	Plate 4	0 00 '	6 50
10x14 LA, " "	9.00	DX.	66		
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14x20, 1X.	9 00 [	IC. Ro	ofing,	65	8 50
20x25, IX. 20x25, IX. 10x14, IC. Coke Plate:		Best	*******		12 50
20x25, 1X.					17 00
10x14, IC. Coke Plates		*******			6 00
14x20, IC, "10x20, IC. "		*******		***** **	6 00
		******		*******	9 50
Hinest Tin -					
Large rigs	17c	Ваги	********		19c
Binail	.1ac				
Zincsheet, 500 to 10	UU ID.	Canky.	*****	******	. 634 c
Loose Sheets				*****   0 *	. 6×C
Slab Zinc or Spelter.		*******	********		. 6 C
Copper.—Bottoms Sheathing		*** **	*****	******	200
Planished				*****	******
" Bofler leng	the	******	*********		85 o
Ingot	VOID .			******	100
Bolt					12.40
Bruglers' Sheets					
30x60, 6 to 7 lbs 9	# 80c	1 30x60.	10 to 12	(ba W	₩ 26c
30x80, 8 to 9 lbs "	780	1 80x80	. 15 to 10	Ibe.	140
Bruziers' Sheets 30x60, 6 to 7 lbs \$ 30x60, 8 to 9 lbs \$ 80x60, 8 to 9 lbs \$ Best Fine \$ Bot Fine	mak	8			
Best Fine				******	. 18c
No. 1			*******	******	. 12c
No. 1		******			.1DMc
Braziers or Speiter S	older	******	********	23	
Antimony		*******	*******	**** **	. 160
Habbit Metal-F.B	. ac c	0	*******	*******	12C
No. 2	*** **	***** .*		****	10C
Sheet Iron		etoom	Smoot	h Sim	coth
Commo		Com.		al. Ju	
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25 & 26 5'30c 27 8'50c	-	4 'd0c	5%c 6 c 6%c	7	Ke.
Chalmaniand Imam -	Ata 4	8 4			
No. 16 to 20	. 12C I	No. 27			. 156
21 10 49	. Lac I	28			16c
25 & 26	.14c				
Russia Iron	- 1	No. 18	tained	******	.18%0
Perfect	14c	_ In wi	oets, 1c	. mghei	
American Russin.		B		******	. #34C
A10	120 S		ets, 1c l		
Pig Bar Wire-isright		Lead P	ipe. in f	HIOD III	814
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William Isright		-11008	ACCES 1000		In 50 e
Coppered	*** **	********	********	di	1a 45 K
Coppered					
A Garrison J H	Rio	rateon	W	m. Hol	mes

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Chilled Sand and Patent Homogeneous Steel

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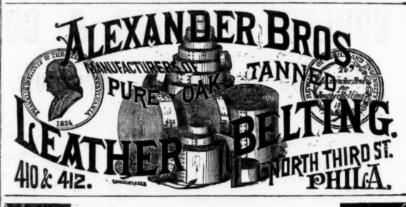
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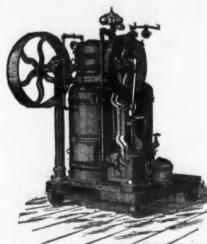
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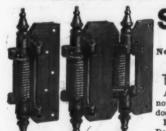
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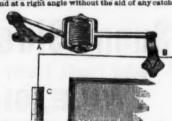
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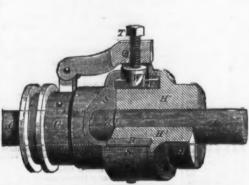
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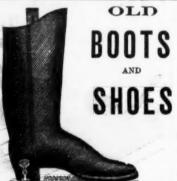
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Loose   dis 75%5 5
No. 6 " " " # dos 33co  Bronze Hardware. Norwalk Lock Co. dis cokto 5  Butts Union Fast Joint dis cokto 5  Loone " dis 7,85 5
Cartridges.—U. S. Cartridge Co
Cards.—Sargent Horse and Curry dis 335/54:0 5 Cotton. dis 258:0 5 Cotton. dis 258:0 5 Wool. dis 258:0 5 Chain.—Traces 65, 10, 4 streight # pair 450 65, 10, 4 streight # pair 450 65 Chain.—Traces 65, 10, 4 twisted # pair 50 6 Chain.—Traces 65, 10, 4 twisted # pair 50 6 Chain.—Traces 65, 10, 4 twisted # pair 50 6 Chain.—Traces 65, 10, 4 twisted # pair 50 6 Chain.—Traces 65, 10, 4 twisted # pair 50 6 Chain.—Traces 65, 10, 4 twisted # pair 50 6 6 Chain.—Traces 65, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10
Coil 2-16. 7, 12, 2,
# 5-16 単 数 7c
Chisels.—Hart. Riven & Meed. Framing.
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"5-10" # B 80 "5-10" # B 70" "5-10" "
Cocks.—Brass, L. F. & C
No. 36, 3 ft. No. 6 Wire, with toggle
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Steak Enives         dis 20 %           Lap Bolster, Oval Handle         dis 20 %           Sticking         dis 33½ %           Skinging         dis 33½ %
Butcher, Common Round Handle, "Woods". dis 25 % Shoe Knives, "Woods". dis 10 % Dividers.—Cook's. dis 25 % Dividers.—Cook's. dis 25 % dis 2
Dog Muzzles.—Automatic dis 15 % Door Springs.—Torrey's Rod. \$402 \$2.00 Gem Cell dis 10 %
Steak Knives dia 20 5 Lap Bolster, Oval Handle dis 25 5 Stlcking. dis 334 5 Stlcking. dis 35 5 Butcher, Common Round Handle, "Woods" dis 35 5 Butcher, Cook's dis 35 5 Dog Vellars. dis 35 5 Dog Mazzles. Automatic dis 35 5 Semery. Morse Bitt Stock dis 35 5 Morse Straight Shank dis 25 5 Emery. Wellington Mills. \$\$ \$\$ 6 1000000000000000000000000000000
Emery.—Wellington Mills
Rorse straight shank
American 1980 0 188 5 \$ Nicholson 188 5 \$ Nicholson 188 5 \$ Firsting Machines. 20 18 5 5 \$ Enox, with 6 inch rolls. 20 402 \$56.00 Ceneva. 20 402 13.50 Rochester. 20 402 12.00 Forks.
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Meat Cutters.—Miles' Challenge.
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Male's
American dis 25 %
Meney Drawers.—Tucker's Alarm \$\psi\$ doz \$27.00
Mense Traps.—Delusion \$\psi\$ doz \$27.00
Miense Traps.—Miense Miense Miens

Lead.—Sheet.

...dis 15 %

dis 30 5 dis 50 5 dis 25 7

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	Plumb & Lands Stanley P & Co. Market
	Plumb & Levels.—Stanley, R. & L. Codis 602 to # Pocket Knives.
0	Pocket Knives. American Shear Co.'sdis 33/42 to 3
×	Potato Diggers. W. C. & Co. reduced list
03	Pumps.—Union Manufacturing Ch.
50	Pulley Blocks dis 154 to 8 Pumps,—Union Manufasturing Os. Iron Cistern. dis 55 Pitcher Spout dis 55 Copper. dis 25 Rivets.—Black dis 25 Rivets.—Black dis 25
*	Copperdis 25 %
××	Carriage in 10 % papersdis 50 %
4 4	Copperdis 25 %
126	Rules.—Stanley
74	Rivers Black   dis 505
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00	Laundry. W 5 576 Tailor's Geese. W 5 56 Enterprise. "Potts" dis 3314 8 Mrs. Potts' Large Polishing, Nickeled # doz act \$8.50
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8	W. M. & C
0	Saw Blades Disston   dis 20
0	Scates
0	Screws.—Aiken's Flat-Head Irondis 65 %
0	" Round-Head " dls 50 %
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Round-Head "
C	Common.dis so
0	Watrous
3	Iron
ŝ	Shot.—Tatham's
5	Short Tatham's   \$\psi\$ 50
5	Oxford, Birmingham Patterndis 45 %
6	Santes.—Uniondis 25 %
6	Spoons.—Tinned Irondis 20 %
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0	Wrenches.—A. G. Coe's
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500	IC. 12x12, 650 DXXX, 123(x17 1250
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0	[XX, 14x20, " 10 50   IC, 14x20, Best Roof. 6 00
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No. 22 to 24	900	3.8c	5 60	6 64
No. 26	W.144	8.90	5-96	7.0c
No. 27	8-904	4 6	6. c	7.3c
			6.5C	7.43
Genuine Russ	sin iron	•		
Perfect-No. 9, 10,	11, 12	*********	per ib.	123ac
Tare 22 lbs. to Bd	ic. For	seas than Be	le. add 1c.	W D.
Patent Plants	hed Iron	1		
No. 44 to 27, A qua	11ty	***********	per 1	.10kc
			4	9160
For less than Bdl				
Gaivantzed S	heet lre	D 18.		
Juniata, or 1st qual	lity, Disco	unt for full	bundles	45 4
Block Tin.				
Banca, Large Pigs.	31c	do. Bmail .		18
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Eng. Ref'd, Large	Pig170			
Solder.		-		
Extra in Bars	12c	No. 2, in B	APR.	9160
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Nickel	*********	***********	********	. 2 00
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No. 1	₩ D. 160	No. 3		11 c
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Commer				
Brazler's, 30x60, 14	to 100 lbs.	Sheets		04-
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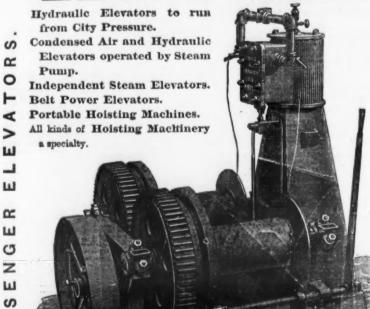
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Tinned.	14 x 48, 14 an	d 16 oz			
Piggishe					
Gutter (					
Reservo	oir Copper,	16x60 and	1kxfin	**********	*******
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Copper	Bottoms		78 11	acu	· · · · · · · 29c
Bolderin	e Coppers		*******	* ****** **	
Mras	a coppera		*******	**********	26C
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Brass Tubing	Eo.				
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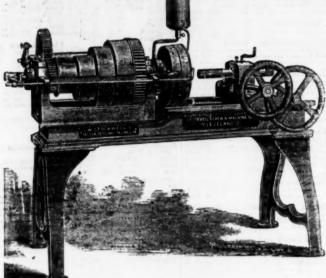
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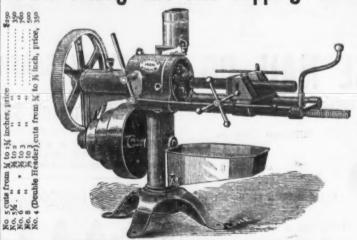
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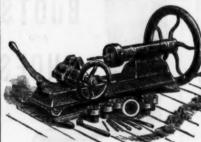
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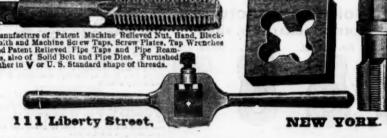
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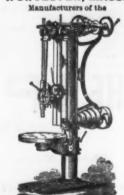
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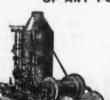
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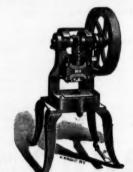
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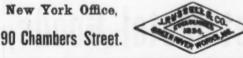
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